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INDEX TO VOLUME LVIII

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JULY TO DECEMBER, 1930

This is an alphabetical index of articles and discussions arranged by leading words. It contains occasional cross references. Names of authors and men who discussed the papers are also included. Details of society proceedings, including the titles of papers read,

officers elected, etc., can be located in proceedings under Societies, Editorials, News of the State, Marriages, Deaths. The subjects of editorials also appear alphabetically and are marked (E).

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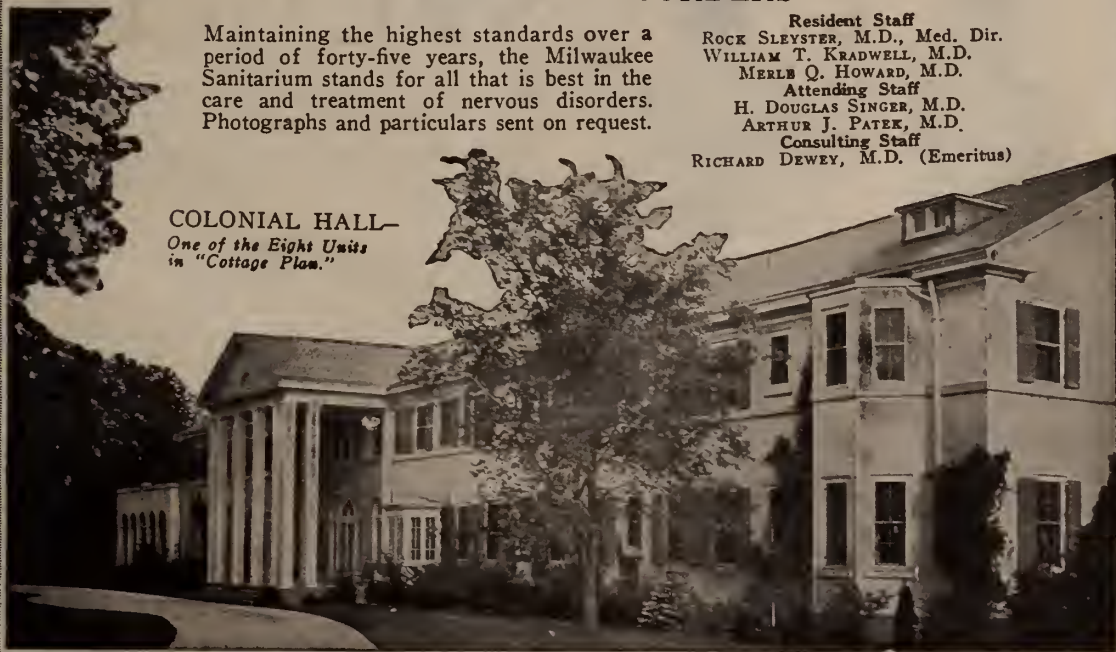
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Editorials

THE PORTER NARCOTIC BILL IS NOW A LAW—THIS DEPLORABLE MEASURE IS ON THE STATUTE BOOKS AND IT MUST BE CO-OPERATED WITH

The ethical medical profession did its utmost to prevent the passage of the Porter Narcotic Bill.

This sort of legislation was unnecessary, uncalled for and superfluous in every respect. Further, it is of a piece with the menacing tendencies towards bureaucratic control that, if unchecked, will soon work the destruction of our democracy.

Interference begotten by lay-assumption of scientific procedure, indicates a false premise upon which to build either medical progress or moral reform. While it may be urged that the persons directly concerned with the promotion of such legislation as this Porter Narcotic bill may have been, and possibly were, actuated by a desire to aid their suffering fellowmen, it is decidedly dubious if they had or have now, any idea of exactly what it was, or is, that their fellowmen are suffering from.

As a matter of fact, this new statute is not going to lessen in any way the number of drug addicts in this country. The ethical medical profession long ago drew the distinction between the legal and the illegal distribution of narcotic drugs. The illegality of this distribution lies in the underworld. It is a problem for the police to handle and it must be remarked that if the police and secret service of the country have no better results in suppressing the unlawful distribution and use of narcotic drugs than they have shown themselves to have had in ten years' experience with the prohibition law affecting alcoholics, then in the Porter bill we have only another burden on the tax payer and a seeming incentive towards the use of narcotic drugs. Certainly fortunes enough have been made out of

bootlegging liquor to inspire other thousands of irresponsibles towards finding another gold field in drug traffic. We had in the Harrison Act a statute sufficiently prohibitory for all practical reasons. This new bill, with its new conditions, admonitions and restrictions offers opportunity for employment for more government agents. Where liquor is concerned all the government agents on the payrolls today have not kept this country dry, nor have they managed to suppress crime. There is more open outlawry, more defiance and less respect for the law, and civil strife and raw murder—call it “gang warfare” if you will—than has been seen in this country since the wide open days of the frontier. Even then it was considered a dastardly deed to shoot a man in the back.

No law, ever directed against a human appetite or a human emotion ever yet was fulfilled in the spirit and only half way in the letter. When Carter H. Harrison III was mayor of Chicago he fought the suppression of the vice district in Chicago. He placed restriction, but argued suppression could not be effected. Mr. Harrison was overruled. The Twenty-second street tenderloin was put out of business, but its habits still go on the even tenor of their way. There is a little bit of that tenderloin in almost every bit of Chicago. No law ever made that was aimed at a vital human need, whether real or imaginary, has ever been enforced nor will it ever be.

The Harrison act, while it could easily have been dispensed with altogether, was still a comparatively fair compromise. The Porter bill stands out as yet another instance of the old story of the camel and the tent. First the beast just wanted to smell the fire, then it just wanted to warm its nose, later its ears, and finally the man within the tent found himself kicked out into the storm while the usurping camel slept on his rug.

The Harrison act took an inch. The Porter act has taken a yard. It remains to be seen what the next step will be. Lay dictation of medical practice is one of the most insidious yet malignant dangers that science must face.

To be sure the doctors of the country did manage to secure one amendment to the bill, as against its original proposals.

This amendment made at the instance of the A. M. A. required the Secretary of the Treasury to cooperate with the states in enforcing state laws to prevent the abuse of narcotic drugs and to cooperate, if necessary, in the formulation of state legislation to accomplish that end. The companion Porter narcotic bill, H. R. 9054, that proposed that the federal government take over the functions of the states with respect to the control of narcotic drugs and narcotic addiction, was thus left without justification or excuse for its enactment.

The request made on behalf of the American Medical Association for the incorporation in the bill of an amendment to the Narcotic Drugs Import and Export Act to permit the importation, for use in research by accredited laboratories, of derivatives of opium and coca leaves not obtainable in the United States, brought from the manufacturers of narcotic drugs in this country an agreement to manufacture any such derivative, whenever needed, in such quantities as may be desired for the purpose named. The suggested amendment was therefore not incorporated in the act.

The act passed creates a bureau of narcotics in the Treasury Department and provides for the correlation of its activities with those of the bureau of customs, the Public Health Service and the narcotic services of the several states. The Federal Narcotics Control Board is abolished. The functions of that board, which relate solely to the importation and exportation of opium and coca leaves and their derivatives, and the functions of the bureau of prohibition so far as they relate to the enforcement of the Harrison Narcotic Act, are transferred to the new bureau. The bureau of narcotics will be under the supervision and control of a commissioner of narcotics, appointed by the President, by and with the advice and consent of the Senate, at a salary of \$9,000 a year. The act authorizes the appointment by the Secretary of the Treasury of a deputy commissioner of narcotics, without reference to the civil service laws. Behold in this the blossom at least of a future crop of political plums fed and watered by the tax payer. Doctors are tax payers, too.

Now it so happens that the qualifications necessary for the appointment of either of these

officers are not specified. Officers and employees of the bureau of narcotics may be vested with the authority of customs officers and employees and assigned to duty at ports of entry and other places, in order more effectually to check the smuggling of narcotic drugs into the United States.

The Surgeon General of the Public Health Service is authorized to study and investigate the abuse of narcotic drugs. He is required to estimate the quantities of crude opium and coca leaves, and their salts, derivatives and preparations, necessary to meet the normal and emergency needs of the United States, such estimates to be available for the guidance of the commissioner of narcotics in determining the quantities of crude opium and coca leaves that may lawfully be imported. The Surgeon General is authorized also to study the prevention and treatment of mental and nervous diseases, and the narcotic division in the office of the Surgeon General is hereafter to be known as the division of mental hygiene.

Any good that is accomplished by this new narcotic drug legislation will depend upon the wisdom of the president in the selection of the Commissioner of Narcotics and the wisdom of the Secretary of the Treasury in appointing a deputy commissioner. That these two officials should be chosen from the ethical medical profession stands to reason, from the point of view of human welfare. Blanketing as it does all drug usage from import and manufacture to distribution through many channels, it would seem that this statute gives the federal government a large hunk upon which to chew. To put it mildly, the situation is so complicated that it offers endless opportunities for leakage. The chemist, the doctor, the veterinarian, the dentist, and possible commercial contingencies are all to be considered. These separate and several interests may sometimes be analogous but they are scarcely coincident. It can be disputed with justice that a physician need not be appointed to handle commercial problems, and certainly there is enough lay dictation of medicine on hand now to save the medical profession from having its needs and requirements passed upon by somebody who knows nothing at all about medicine, though possibly a terrible amount about business.

OUR PHILANTHROPY WAS REALLY THE CAUSE OF OUR UNDOING—WHO IS RESPONSIBLE FOR THE POOR? CERTAINLY NOT THE DOCTORS

Dr. Harry M. Hall, of Wheeling, W. Va., at the annual conference of Secretaries and Editors held in Chicago, November, 1929, and published in the A. M. A. Bulletin, had much to say upon the problems of the medical profession. The following excerpt is highly illuminating. We quote:

"The average cost of a bed in hospitals ranges from \$4 to \$6 a day. Those unable to pay at all make this rate as high as it is. Who is responsible for the poor? Certainly not the doctors. The medical profession had nothing to do with their poverty. It is the economics and chaotic living conditions of the outside world. But you will find the doctor has to answer for them when ill as if he were responsible for them. They cannot obtain a livelihood, so are not sheltered, fed or clothed. They, therefore, through lack of resistance fall a prey to disease. No contractor gave them a house. No chain store gave them food. No mail-order house gave them clothing. No automobile dealer gave them an old car to obtain a little fresh air. No statesman worked out a solution for their maintenance with self-respect. No politician gave their plight a real thought. Mergers, combines and chain stores threw some of them out of employment. It was too late to get anything else. Flotsam and jetsam. What will be done with them? Shoulder them on a hospital and let the doctors do what they can, but how? Free, of course. Up go hospital rates. Then critics dispose of us in sarcastic terms about the high cost of medical care. We think we have no part at all in the high cost of medical care. The outside world is responsible socially for the predicament of the poor. Particularly are the legislative bodies and the systems of commerce responsible. We need no elaborate figures or investigations or surveys to tell us that few doctors receive handsome incomes from their vocation. Outstanding surgeons possessed of great skill in some particular line may make big fees. The others do not, and there are men in the United States survey who know this even better than we do. Had we collected our accounts and had no

promiscuous free service no one would have heard of the high cost of medical care. Our philanthropy was really the cause of our undoing.

"The industrialization of America has effected many changes since the days of settlement and of agricultural development. Efficiency and invention are constantly placing greater numbers of workers in jeopardy of unemployment. Periods of underproduction suddenly cause great numbers of families to become virtual charges of the community or state without, in the great majority of cases, the necessary savings to tide them over these periods. Migrations of workers to other communities seeking employment have broken the relationship of doctor to family and have weakened credit standing. The close union of doctor to patient of a generation ago is being weakened by many factors. The doctor of today in a high-pressure age of commercialism seems to find himself alone in the field of public servants having humanitarian ideals toward the ever increasing number of spendthrifts. Were one to throw open his doors to all, regardless of ability or willingness to pay for service, the office would soon be filled with charity cases. And on the other hand, we enjoy an almost unique position in the eyes of the public as a profession who cares for all the people all of the time with a sliding scale of fees consistent with income. This position, we have insisted upon at all times. Are we to be forced from this position and placed in the category of trades people with a cash basis for service? Certainly such a plan would correct some abuses of our present system and reduce the number of non-pay cases. Who will then care for that ever present group of really poor who are always with us? The State, through state medicine? Who will care for the increasingly large group of those who are able when working to meet the various "monthly payments" but who are practically paupers a week after their income ceases? Granted that the fault lies with their living beyond their means without provision for emergency sickness, how can this situation be corrected? Certainly not by adopting a cash only basis—unless the commercial world also gives up retail credit. Even then we give up our position as liberal humanitarian. Who can offer a solution of these problems? What is more important for America than a so-

lution of the problem of providing maximum efficiency in the art and science of medicine made equally available to all the people?

"If no other solution is found, paternalism is inevitable."

SENTINELS OF THE REPUBLIC ASKED PRESIDENT HOOVER TO OPPOSE REVIVAL OF THE MATERNITY ACT

There is food for thought in that other periodicals besides the *ILLINOIS MEDICAL JOURNAL* and a few other medical journals are waking up to what maternity legislation means.

Because of the interesting viewpoints expressed in this article it is reprinted here as it appeared in the *United States Daily* of June 21, 1930. We quote:

"Letter from sentinels of the Republic express organization's disapproval of legislation; provisions of measure criticized.

Opposing proposed legislation to renew the operations of the so-called maternity act, under the administration of the Children's Bureau of the Department of Labor, the Sentinels of the Republic organization has sent a letter to the President, answering statements made in a petition presented to the Executive on June 11 by representatives of a number of women's organizations. The letter is signed by Frank L. Peckham, as vice president of the Sentinels of the Republic.

The opposing arguments question benefits from the operation of the maternity act, and the wisdom of Federal aid to the States in a matter of this character. It is asserted, also, that opposition to the re-enactment of the measure has been expressed by the Public Health Service, the American Medical Association, and individuals in the field of medicine and surgery.

The petition presented to the President by the representatives of women's organizations was published in full text in the issue of June 14. The opposing arguments by the Sentinels of the Republic addressed to the President follow in full text:

Inasmuch as representatives of certain women's organizations have seen fit to lay before you a petition, urging you to support a program call-

ing for immediate enactment of legislation to renew the provisions of the defunct maternity act, I take the liberty, on behalf of the Sentinels of the Republic of inviting your attention to certain pertinent considerations that should aid in determining the proper course to be pursued in this matter.

While in most instances condemnation of the adversary advocate is a poor argument, in cases such as the present, where the obvious purpose is to give an impression of overwhelming strength and to exert influence through a show of force rather than by an appeal to sound judgment the character of the representatives and their representatives should be considered.

CLAIMS DUPLICATION OF MEMBERSHIP

The petitioners describe themselves as the representatives of 13 national women's organizations and thereby give the impression of great numerical strength—an important factor if there were actually great numerical strength and the petitioners actually represented the intelligent deliberations of a substantial proportion of the population. An investigation will disclose that there is considerable overlapping in the memberships of the organizations allegedly represented and, in fact, that there is considerable identity of membership.

The petition alleges that the work of the Children's Bureau in the administration of the maternity act "has received the approval of social workers, health officers, physicians and other technical experts," and that the "evidence in favor of a renewal of the program has been overwhelming, both from the point of view of popular interest and on the basis of technical appraisals of the work done."

In connection with the representations referred to in the last preceding paragraph, it is only fair that you should be advised that, outside of a small group of what might charitably be described as professional legislative welfarers, those who have placed their stamp of approval on the work of the Children's Bureau, have given evidence in favor of renewal of the maternity act program and have made favorable technical appraisals of the work done, are mostly persons connected with the Children's Bureau or State and local officials and attaches whose emoluments

and prestige have been enhanced through the 50-50 appropriations from the Federal treasury, the inevitable pay roll clique that is ever ready to indulge in self praise in the promotion of self-interest.

The members of the organization for which I speak at this time are at least as sincerely interested in the welfare of mothers and children as are the proponents of Federal legislation on those subjects. Furthermore, members of this organization are not only desirous that the lives of mothers and babies be saved but that those lives shall be lived fruitfully as American citizens under American principles of government, which, as has been proven by experience, provide the best known guarantees of opportunity for individual advancement toward happiness and prosperity.

The maternity act and similar Federal legislative measures are un-American and are violative not only of the provisions of the Constitution but also of the great principle of individual, family and community responsibility upon which the expressed provisions of the Constitution are founded and which are customarily described in the phrase "local-self-government," that inestimable heritage of the American people.

ASSUMPTION OF STATE RIGHTS IS CHARGED

Such Federal legislation serves to inject the Federal Government into fields of endeavor where the powers and responsibilities of the States and local communities are, under the American theory of government, exclusive. Through control of the purse-strings, Federal bureaucrats, acting in the name and on behalf of the Federal Government, exercise powers that the Federal Government does not and ought not possess.

Such Federal control, or even participation, serves to deaden the sense of responsibility of the States, local communities and individuals, and gradually to reduce those once self-reliant, self-governing elements of the Nation to a state of dependency.

The hysterical demands for a revival of the maternity act program furnish the best evidence of some of the outstanding vices of this sort of legislative interferences in local affairs.

Among the claims made for the act, when first

projected, was that it would "stimulate" the States to undertake and develop activities contemplated under the provisions of the act. After eight years of such "stimulation" what do we find? We find the proponents of the measure now crying out that the States cannot or will not efficiently carry on the work without further and continued "stimulation" from the Federal Treasury.

This merely demonstrates the fact that, like all others who have come to rely upon periodical administration of drugs or other stimulants, the States have become "stimulant" addicts. The only known cure for stimulant addiction is the discontinuance of stimulants. That cure should be administered to the States in this instance. Their sense of responsibility and their strength to discharge that responsibility cannot be rehabilitated by continuing the doses that brought on the disease.

Another fact that the demand demonstrates is that when once the Federal Government is launched upon a supposedly temporary program of intermeddling in local affairs it is almost impossible to prevent its activities from being permanently continued. A Federal bureau is loath to relinquish its grasp upon power, prestige and perquisites flowing from the control of appropriations once committed to its charge, and such a bureau at once becomes an instrumentality of propaganda looking to the continuance and enhancement of its power, devoting considerable of its energies to the task of self-perpetuation rather than the task delegated to it.

Instead of there being an overwhelming demand for re-enactment of the maternity act or similar legislation, on the contrary there is strong opposition to it among those who are best able to judge of the practical effect of the activities of the Children's Bureau and its associates in the work carried on under the act.

Among such opponents are found The American Medical Association, leading obstetricians and other reputable physicians, the United States Public Health Service, as well as leaders in the field of practical and effective maternity and infancy welfare work, such as Mrs. William Powell Putnam and others. In fact, some of the original supporters of the act have, in the

face of observation and experience, recanted and now oppose revival of the act.

ADVANCE IN MEDICAL KNOWLEDGE IS CITED

So far there has been no evidence that the bureaucrats in the Federal Children's Bureau or those associated with them locally throughout the country has actually accomplished any beneficial results under the act. It is true there has been a gradual decrease in the rate of deaths among mothers and infants.

This decrease has come about during a period of advance in medical knowledge and of unprecedented nation-wide prosperity, with a corresponding rise in the general standards of living, and with unmeasured advances in the means and facilities for transportation and for dissemination of information. Undoubtedly, also, benevolences of Nature have contributed something toward the desirable decrease in the death rates.

It is as ridiculous to credit the maternity act and the Children's Bureau with these decreases as it would be unfair to blame that act and that Bureau for the material increases in the death rates of mothers and infants in the year 1928 over the year 1927. In this connection, it might well be pointed out that in two States—Kentucky and Virginia—whose health officers have been among the most vociferous and extravagant acclaimers of the maternity act and the Federal Children's Bureau, there were violent increases in the maternal and infant mortality rates in 1928, as compared with 1927.

In Kentucky the infant mortality rate rose from 60 in 1927 to 71 in 1928, while the maternal mortality rate rose from 49 to 60. In Virginia, the infant mortality rate rose from 75 in 1927 to 76 in 1928, and the maternal mortality rate rose from 62 to 75. Throughout the entire birth registration area, the infant mortality rate rose from 65 in 1927 to 68 in 1928, while the maternal mortality rate rose from 65 to 69. All this occurred while the maternity act was in full force and effect and long after the experimental stage of its operation had been passed.

Even if such legislation as the maternity act were constitutional, the only theory upon which it could be justified would be that the respective States have not the intellectual, moral and financial resources to care for their purely local problems. As yet there is no State that has reached

that degraded condition and the only threat of such degradation in the future lies in a continuance of the Federal policy of purchasing or otherwise usurping the power to intermeddle in purely local affairs.

For the foregoing reasons the Sentinels of the Republic respectfully urge that you not only decline to lend your support to any program looking to a revival of the maternity act, but that you exert the tremendous influence of your high office toward the restoration in practice of the principles of American government, whereunder responsibility is coincident only with power, and that, as the Federal Executive, you insist that the States shall resume their responsibilities and discharge them without Federal aid or interference."

CHICAGO MEDICAL SOCIETY SUMMER CLINICS

The Chicago Medical Society and members of Cook County Hospital Staff will conduct Summer Clinics for the fifth season from August 11 to 22, 1930. The attendance in 1929 surpassed that of previous years, and it was noted that about 50 per cent of the physicians attending one course have attended subsequent courses.

The number who may attend the clinics is limited by the size of the amphitheatre, therefore registration in advance is necessary. Admission to the clinics will be by card only. Registration is open to all members in good standing of the American Medical Association and its component societies. A registration fee of Ten Dollars is charged to cover the expense of organizing the clinics.

Clinics will be held simultaneously in the medical and surgical amphitheatres, except that the pediatric clinics will be held in the Children's Hospital and the demonstrations in pathology and laboratory technique will be held in the Morgue.

Exhibits in Fresh Pathology have become an established feature in connection with the clinics. Cases will be demonstrated at each clinic. Bedside instruction may be arranged. Evening lectures by physicians not on the hospital staff will be given in connection with the course on the subject of heart, obstetrics, surgery, pediatrics and physiology.

Communicate with Chicago Medical Society Summer Clinics, 185 North Wabash Avenue, Chicago.

BACK NUMBERS OF THE JOURNAL WANTED:

The Bureau of Science Library, Department of Agriculture and Natural Resources, Manila, Philippine Islands, desires back numbers of the ILLINOIS MEDICAL JOURNAL as follows: Vol. 29—February and March 1916; Vol. 30—August and December, 1916.

Kindly forward back numbers to ILLINOIS MEDICAL JOURNAL, 185 N. Wabash Avenue, Chicago, Illinois, or kindly notify the JOURNAL office and postage will be forwarded promptly.

Back numbers Volumes of transaction of the Illinois State Medical Society Wanted:

The Northwestern University Medical School, Chicago, desires volumes of transactions of the Illinois State Medical Society as follows: First to twenty-second volumes, covering the years 1850-1872 both inclusive. Kindly communicate directly with the Northwestern Medical School Library, 303 East Chicago Avenue, Chicago, Illinois, or directly with the editor, ILLINOIS MEDICAL JOURNAL, 185 N. Wabash Avenue, Chicago.

THE NORTH SHORE BRANCH OF THE CHICAGO MEDICAL SOCIETY OFFERS \$500 REWARD FOR THE MURDERER OF ALFRED J. LINGLE, CHICAGO NEWSPAPER REPORTER

A unique feature of medical activities in the interest of better government is to be found in the reward offered by the North Shore Branch of the Chicago Medical Society. Doctors have a civic as well as a scientific duty towards the public. No better illustration of their obligation in civic affairs can be found than the action of the North Shore Branch in helping to rid Chicago of its gangs of racketeers and gunmen.

The North Shore Branch of the Chicago Medical Society considers that the Lingle atrocity is, in effect a challenge to Chicago's decency since it is the outgrowth of racketeering and extortion, a blow to public opinion and a matter of national importance, as Chicago is not the only city where similar murders will be taking place.

There is an obligation on all individuals to fight the enemies of society at no matter what cost. Lingle's death is a warning to the community of the danger it faces. The gauntlet is thrown down to the respectable element of Chicago. Aid must be extended in capturing and punishing Lingle's murderers and in breaking up the organized gang that has been preying on the city. Those responsible for this murder must be run to earth and punished. Nothing must be left undone to bring these murderers to justice.

Lingle's murder serves notice that gangland has crossed the border line, and that every man, woman and child in this community is in immediate peril. Society must be aroused to defend itself.

The *Tribune* commands the hearty sympathy and moral support of all reputable and responsible members of society.

The shooting of Alfred J. Lingle is a straight deft from organized crime that must be met squarely.

The North Shore Branch of the Chicago Medical Society as a body and as individuals is concerned in the detection and prosecution of the murder of Alfred Lingle.

As sincere evidence of this responsibility this North Shore Branch of the Chicago Medical Society subscribes five hundred dollars for the arrest and conviction of the murderers of Alfred Lingle.

Board of Governors,
North Shore Branch of the
Chicago Medical Society.

DOCTORS WHO HAVE ACHIEVED FAME
IN FIELDS OTHER THAN THE PRACTICE
OF MEDICINE—HOBBIES
OF MEDICAL MEN
DR. LUCIUS H. ZEUCH, HISTORIAN

Historians are born, not made. The same has been said of physicians. If that is true, then the gods of good gifts stood double guard over the cradle of Dr. Lucius H. Zeuch. For not only has time proven Lucius Zeuch to be an able, a sought after and a loved practitioner of medicine but it had granted him the guerdon of a competent compiler of history. And, as those who have played at that game know well, the com-

pilation of history, following the tedious gathering and verifying of facts is indeed a Herculean labor requiring skill, patience and a natural devotion for this work.

As a man, a physician, and an historian, Dr. Zeuch has had a colorful and interesting existence.

In the eighties the teachers of the old Franklin public school of Chicago instilled into the minds of two pupils, Lucius H. Zeuch and Robert Knight, a love for historic traditions. To manhood both boys carried a desire to see the places they studied about in their boyhood days; some day they hoped they would save enough money to visit the shrines of American history. One of these boys became a physician, the other an engineer. During their years of small means they satisfied their geographic cravings by riding long distances on bicycles to study geologic formations at Chicago's back door, visiting the nooks, coves and prehistoric beach ridges along the Des Plaines river. They remembered the stories of the intrepid explorers of the seventeenth century and tried to envision the wilderness as it appeared to the early pathfinders. As they both became successful in a financial way they purchased motor cars and traveled long distances to the East to get close to the cradle of the republic. From Quebec to Florida they visited battle fields on the coastal plain and studied the strategy of the Generals engaged in the conflicts.

Hunt for the Chicago Portage Route. After one of these excursions to the east they sought the Chicago portage of the dim past, that brought men of early times to Chicago to establish trading posts. The two investigators visited the abandoned arm of the Des Plaines river where they believed the old waterway had its origin. Finding a little inquest at the Des Plaines river and Forty-ninth street they assumed this to be, in the absence of present day means of travel, the best way for those using canoes to have reached Chicago. Not having read extensively of the early trade route that meant so much to early Chicago they began to look for information about its location and to their astonishment this statement appears in the book of that great historian, M. M. Quaife's "Chicago and the Old Northwest." The comparatively

undeveloped state of the field of American historical research is well illustrated by the fact that despite the historical importance of Chicago Portage no careful study of it has ever been made. The student will seek in vain for even an adequate description of the physical characteristics of the portage. Zeuch and Knight tried to prove that the little creek they had visited was the true *raison d'être* of the French explorers. In the quest of this ancient gateway to Lake Michigan they found documentary evidence very misleading, as travelers had recorded the impressions at the time of passing, and as the waterway they have traversed was through a slough at times filled with water and at other times was almost dry, the proving of its location by this means was unreliable. These researchers began an unparalleled search for early surveys that alone would show the physical features of the country before it was changed by the hand of man. City, State, National and European archives were combed for surveys and surveyors' field notes with which the problem that had engaged the attention of researchers of the Chicago Historical Society since its inception in 1856 without avail, was solved. In 1928 after ten years of effort results of this labor of Robert Knight's and Dr. Zeuch's were published by the Chicago Historical Society under the title *The Location of the Chicago Portage Route of the Seventeenth Century*. Commenting upon this research M. M. Quaife, the eminent historian, states "as elaborated it constitutes an admirable piece of local historical investigation and to the reviewer it seems highly unlikely that any future student will feel the need of repeating this study. The authors who produced it and the Society which sponsored it may alike take pride in their work."

Move to Preserve the Portage. The Sanitary District of Chicago, owners of the land at the west end of the Chicago Portage, had made plans to erect a sewage disposal plant in the Portage creek area. If they had done this they would have destroyed this primeval gateway to Chicago for all time. Steps were taken immediately to prevent what seemed to be an irreparable loss to posterity. Enlisting the aid of Dr. Otto L. Schmidt, then president of both the Chicago and Illinois State Historical Societies, the trustees of the Sanitary District of Chicago were pre-

vailed upon to hold off using the site. Recognizing the historic value of the region the Sanitary District altered their plans and placed their plant in Stickney east of the area.

Find a Way to Have Portage Area Preserved and Maintained. After years of missionary work necessitated by changes in officialdom of both the Sanitary District and the Cook County Forest Preserves due to election and with the recommendation of the Regional Planning Association a way was found in 1929 to grant legally a lease of the premises to the Forest Preserves by the Sanitary District and perpetual care of this hallowed gateway to our beloved city is thus assured. The Chicago Historical Society erected a marker, designed by Dr. Zeuch, at the west end of the Chicago Portage, on May 16, 1930.

Re-locate the Site of Mount Joliet. In the April issue of this year of the Illinois State Historical Society journal there is another research by Knight and Zeuch entitled *Mount Joliet: Its Place in Illinois History and its Location*. In this they publish their findings concerning that ancient landmark that aided navigators in estimation of distances in those days when Des Plaines river travel was at its height. To this and previous researches bring a method hitherto not employed by historical location investigators. By using old surveys drawn to a scale and by photographing them to match a modern map, accurately scaled and superimposing the old map upon the modern map they can re-plot a given landmark definitely.

Dr. Zeuch was born in Chicago in 1874 and has been practicing since 1902, five years of which he served in Wheatfield, Indiana. His training in historic research enabled him to write the *History of Medical Practice in Illinois Vol. I.*, which was published by the State Medical Society in 1927.

Additional Information Concerning the Researches of Zeuch and Knight. Some idea of the distances and places necessary to cover in gathering material about the early explorers and missionaries of the Illinois country can be gleaned from the fact that all of these pathfinders were Europeans. This necessitated the combing of foreign archives in 1924 by Dr. Zeuch for source material, such as maps and descriptive data. A complete survey was made

of all the trading posts along the St. Lawrence river, Quebec, Montreal, Three Rivers, La Chine and other points along the valley of that stream. Then Kingston, Ontario, which was Fort Frontenac, the headquarters of Governor Frontenac, Mackinac Island, St. Ignace, and all points associated with the ministry of Father Marquette among the Indians as recorded in his journal, were visited. Following the footsteps of this saint of the wilderness stops were made at De Pere, Portage, Wisconsin, and the confluence of the Wisconsin with the Mississippi river in Wisconsin; the mouth of the Des Moines river, Cahokia and Kaskaskia the second in the American Bottom; the mouths of the Ohio, Arkansas and the Illinois rivers, Fort Creve Coeur (East Peoria), Starved Rock (Ft. St. Louis), the confluence of the Des Plaines, the Kankakee with the Illinois, and intensive resurvey of the physical features of the Chicago area and the foot of Lincoln street on the south branch of the Chicago river, which last these investigators believe to be the most likely site of Father Marquette's cabin of 1674-1675, Cape Hayes (Loyola University site), Racine, Kewanee and Sturgeon Bay associated with the return trip of the sick priest whose life was spent in this service to humanity and finally a study of the place of his death at Ludington, Michigan.

To study the portages or the "keys of the continent," the Lake Erie, Lake Chautauqua-French Creek, Allegheny river, the Lake Erie, Maumee-Wabash river, the St. Joseph-Kankakee river, the Fox-Wisconsin river, necessitated traveling great distances. Passage from the Great Lakes to the Mississippi river had to be made over the ridges that separated the headwaters of the streams flowing into the one or the other. To obtain information about the trade and traders using these early modes of travel all the frontier forts that were established to protect this primitive commerce were re-located and their history studied; Forts Howard, Winnebago, Crawford, Armstrong, Edwards, St. Louis, Gage, Kaskaskia, Massac, Clark, Vincennes, Knox, William Henry Harrison, Ouatanon and the remains of the trails, the most of which have been almost totally obliterated. By the procuring of old surveys their positions were ascertained. All of this knowledge was correlated to the docu-

mentary evidence extant to clear up controversial points that have crept into the literature because of insufficient source material. Needless to add that this monumental work consumed most of the leisure hours of the investigators. They found ample compensation in the consciousness that had they not done it no future historian could have completed the survey for the changes that the progress of the times have almost entirely obliterated the remaining landmarks which alone can identify the shrines of the past in the Chicago area.

For their contributions to history Dr. Zeuch and Mr. Knight were made honorary life members to the Illinois Catholic Historical Society and were placed on the honor roll of the Chicago Historical Society.

We have as candidates for future write-up the names of the following physicians who have achieved fame in fields other than medicine. They are:

George B. Lake, editor of *Clinical Medicine and Surgery*, North Chicago, Ill. William Barnes, Decatur, Ill. Carl Schneider, Henry T. Byford, Richard S. Patillo and Louis J. Tint, all of Chicago. Do any of our readers know of additional names that should be added to the list?

Correspondence

THE A. M. A. MEETING FROM THE VIEWPOINT OF THE SECRETARY OF THE ILLINOIS STATE MEDICAL SOCIETY

Monmouth, Ill., July 1, 1930.

To the Officers and Council,
Illinois State Medical Society.

Your Secretary wishes to report on the activities of the Illinois Delegates to the A. M. A. meeting in Detroit. All delegates from Illinois were present and attended the sessions as was expected. One delegate was unexpectedly called away from the meeting and missed the final session on Thursday. The resolutions from the Illinois State Medical Society House of Delegates were presented according to instructions. It was the general opinion of the House that our resolution relative to the standardization of hospitals by the A. M. A. was one of the most im-

portant resolutions presented at the meeting. The resolution was presented by Delegate E. P. Sloan and when first read, received rousing applause. Our delegates and the Secretary went before the committee on Medical Education and Hospitals and discussed the resolution in detail, giving our reasons for presentation. The resolution was approved by the committee and unanimously passed by the House.

To show the interest in this resolution we were informed that the Board of Trustees discussed the resolution at their meetings and were expecting to procure at once the services of one of the best men in the country for this work. In accordance with the request of the Council at the June 9 meeting, the Illinois delegates met with the Iowa and Kansas delegates and discussed the obnoxious broadcasting from radio station KTNT at Muscatine, Iowa, owned and operated by Norman Baker, who owns the Baker Cancer Institute. As a result of this meeting, a committee from Illinois, Iowa and Kansas met with Dr. Woodward, Director of the Bureau of Legal Medicine of the A. M. A. and drafted a resolution on pernicious radio broadcasting, directed to the Federal Radio Commission at Washington. The resolution was introduced and unanimously adopted. We were also informed at the meeting by Secretary Olin West that the Board of Trustees was willing to spend some money to assist in getting Baker and his pernicious broadcasting off the air. This information was sent immediately to Dr. Beveridge of Muscatine and telegrams were sent to the press at Muscatine, Davenport and Des Moines, the papers at these places having already taken an active interest in this station and in assisting in the collection of affidavits to be presented to the Federal Radio Commission. We were informed that affidavits had been prepared and collected and would be taken by the Attorney General of Iowa to Washington on June 27 as they must be in the hands of the Commission on July 1, to be of value.

The House of Delegates again unanimously went on record as opposing all forms of legislation similar to the Sheppard-Towner Act whereby Federal appropriations matched or unmatched by similar appropriations by the various states are to be used in Maternal and Infant

welfare work. This resolution which is to be sent to the President and all members of Congress as well as to all State officials of the country, showed that the states which received the Federal aid over a period of seven years, did not show any greater improvement in their mortality statistics than did those states that refused such assistance.

During the meeting a telegram was received from Washington stating that President Hoover was anxious to have the House of Delegates take some action in opposition to the Veterans enabling act which had just been passed by the Senate, whereby many New Veterans Hospitals would be built and all veterans would be cared for by the Government, regardless of when and where their disabilities were received. A resolution was passed and sent at once to the President, as requested. It was shown that the bill passed by the Senate, if it became a law, might easily cost the country more than one-half billion dollars annually and it would be one more entering wedge for State Medicine.

Our Delegates from Illinois were well cared for in committee appointments made by the Speaker of the House. President Gerry Morgan appointed one of our Delegates, Charles E. Humiston, as a member of the Council on Medical Education and Hospitals. This is generally considered one of the best appointments made. Dr. Humiston has been a teacher for so many years and is so highly interested in Medical Education and Hospital work.

At the election on Thursday afternoon, there were three candidates for President-elect, E. H. Carey of Dallas, for six years a member of the Board of Trustees of the A. M. A.; E. Starr Judd of the Mayo Clinic, and Dr. Graves of Texas. The Illinois Delegates favored and worked for Dr. Carey, believing this would be the wish of the Illinois State Medical Society. It was very unfortunate that a prominent member of the Texas profession was working against Dr. Carey for personal reasons and had Dr. Graves brought up to split the vote. When the votes were counted, Dr. Judd received 75 votes, Carey 69, and Graves 4, electing Judd on the first ballot.

Philadelphia was selected as the place for the 1931 annual meeting. This meeting once more

showed the value of State Societies sending as delegates men who are thoroughly familiar with the subjects under discussion and are not afraid to assert themselves at the proper time. The Illinois Delegation adopted the unit rule, which likewise seems advisable. The Illinois Delegation was considered as one of the most powerful delegations in the House. This was the only large delegation which stood together at all times.

With Dr. Humiston on the Council on Medical Education and Hospitals and in view of the reception our Standardization resolution received, it is our opinion that the A. M. A. will exert more energy along the line of standardization than ever before.

HAROLD M. CAMP, Secretary.

INSURANCE PROBLEMS AS THEY AFFECT PATIENTS, PHYSICIANS AND EMPLOYERS, AS WELL AS INSURANCE COMPANIES

Champaign, Illinois, May 16, 1930.

To The Editor: I was much interested in the article on "Economics" in the June JOURNAL; so much so that, at the risk of some repetition I want to add a little more discussion to certain points brought out, and some not brought out. In particular I refer to the insurance problems, as they affect patients, physicians and employers, as well as insurance companies.

The four groups named, patients, physicians, employers and insurance companies, are all in their individual businesses to make a living and as much more as they can. There are good and bad elements in all four, the good largely in excess of the bad. The good have no trouble with anyone—and the crooked minority make all the trouble for everyone.

I do not believe there is any question in the minds of any fair physicians and surgeons that the medical profession has been much helped by the development of insurance care for employes and employers. There are plenty of men in practice today who learned by bitter experience to dodge every injury they could, for fear of damage suits, no pay, etc. I've been doing this class of work for thirty-five years, in private practice, and I know what I'm talking about. And let me say right here, that I have always

charged, for services covered by insurance, just what I would have charged a private, uninsured patient under existing local fee bills, and *I have never yet had an insurance company object to my charges.* If they have ever thought them too high they didn't think it hard enough to mention it. I'll admit I have tried to be decent, and with but a few exceptions, I have been paid, unhesitatingly. A little company is paying me now, by installments, a fairly big bill. But it is paying it as fast as it can, and that is entirely satisfactory to me. I prefer to work only for good accident companies, just as I prefer to examine only for good life insurance companies—and I don't work for any other kind if I know it.

There will always be occasional trouble, somewhere along the line of an injury case. But read between the lines, and look behind the scenes, and it is just about as often due to discourtesy between doctors as to anything else. That isn't the insurance company's fault—but the combination of a crooked doctor and a crooked company will surely make trouble somewhere. There are a lot of thoroughly competent men in the United States who don't call themselves "specialists" who are getting very tired of being labeled "family physician" by self-appointed "specialists"—when said specialists are trying to confine the general practitioner's work to the reference of all his cases to some one else—and the writing of certificates to go to scout camps. I might be a "specialist" in one or two lines myself and not be afraid to hold my head up; but I'd be ashamed to even if I wanted to—which I don't—because there are other men in my community who are just "general practitioners" who are just as good and a little better than I am. But neither they, nor I, like it a bit when we've picked up some poor devil who is all smashed up, and taken good care of him, to have him taken away by an insurance company, (almost invariably against his will) and given much worse treatment, both professional and hospital, than we were giving him. That is being done right along, by the combination of the unscrupulous doctor and the unscrupulous insurance company—and that is going to make plenty of trouble for some *employers* if it isn't checked. For the employer is the fellow who is responsible to the employe, *not* the insurance company.

If Bill Jones is working for the Blank Machine Company and gets a hand torn up or a leg broken he doesn't hold the insurance company or the doctor primarily responsible; he looks to the Blank Machine Company for satisfaction, and that's where he keeps looking if he *doesn't* get it.

I want to give two illustrations.

Some years ago an insurance man come to my office, said his company had the entire coverage of a project here that was going to employ several hundred men for a year or more, and asked me to do their work. I said I would; *the subject of fees was never mentioned*, and they paid me, at the regular rates of the local medical society, for everything I did just as soon as I sent my bills in—which I did after the completion of each case. It was a nice job and everyone seemed satisfied. About a year after this some representative came in and asked me what I'd do a hernia for, saying they had a laborer in another town who had developed a hernia after a fall, and they were offering him an operation. On being told that he was a common laborer who made \$4 to \$5 a day, I told him I'd operate on him for \$125, including all assistants' fees. Whereupon he told me that he'd like to send the man here, as we had gotten along so well and the men had been so well satisfied; also that the \$125 was little enough and he didn't expect me to say any less—and that he would send him here if he could. But that a prominent surgeon—whom he named—in an adjoining city—which he also named—was doing their hernias for \$50, and he doubted if he could get the company to send him to me. I laughed; and told him that I might operate on the poor devil for nothing for himself, but I sure was doing no \$50 hernias for big insurance companies or general contractors. The patient never appeared. That's what some of our surgical "specialists" are doing.

I know of two other cases at present, neither of them patients of mine—who in the last year received serious injuries. Both were taken care of at once by competent men, both had consultations at the request of the doctor who first attended them, and both were doing well. Much against their will, both being told they would have to pay their own bills if they didn't obey orders, they were ordered to a city hospital, oper-

ated on (also against their will) given unsatisfactory hospital service, and sent back in poor condition and thoroughly dissatisfied. (One employer, at least, is going to have a man-sized damage suit on his hands before he is through with it.) And all this simply that the city surgeon shall get the fee—whatever the insurance company chooses to pay.

I'm not trying to say that all private practitioners are always competent—but they'll average up fairly well, and they are a lot more likely to satisfy their personal patients and friends than are strangers. And that is one point to be considered in the avoidance of damage suits.

This is a big problem—and it's going to be bigger. Different features will have to be met from year to year. I'd like to offer one suggestion which has probably been made, but I haven't seen it. Most all sorts of business organizations today have adjusters and inspectors and advisors, for their daily problems. The vast majority of injuries are minor and the vast majority of injured will do as they are told. But it isn't good psychology to *force* any man to go to a doctor when he doesn't want to, at least to deny him counsel with the man of his choice. Half the population of this state, and half the doctors, are bunched up in Cook county. It seems to me that if the insurance companies in Chicago could find a man, or some men, to act as an *inspector* in some of these cases, with power to make suggestions and changes if necessary, that that man would save for the companies each year far more than the liberal salary to which he would be entitled. Such a man would first have to have had years of personal, private practice; he would have to be absolutely impartial and a "square-shooter"; he would have to have plenty of tact and patience; and he would have to have courage enough to occasionally look the President of a steel company, the President of an insurance company, the President of a medical society, the patient and his lawyer, and the doctors themselves, straight in the eye and tell them just what was going to be done—or, "nothing doing." The same arrangement could be made for the state outside of Chicago, and the inspectors work with each other. I am quite sure there are such men, and that there is a place for them to fill.

CLEAVES BENNETT, M. D.

IS TRAUMATIC SURGERY A SPECIALTY —ONE THAT THE GENERAL PRACTITIONER MUST KEEP HIS HANDS OFF

Chicago, Illinois, June 20, 1930.

To The Editor: Dr. Leroy Philip Kuhn, in his address on Economics before the Chicago Society of Industrial Medicine and Surgery, copy of which appears in the June issue of the ILLINOIS MEDICAL JOURNAL, makes repeated references to traumatic surgery as a specialty, and one that the general practitioner must keep his hands off. To give an idea of the exalted position assigned to traumatic surgery by the president of the Society of Industrial Medicine and Surgery, I quote the following few lines from his speech: "Naturally the insurance carrier becomes one of the important three parties because the carrier has all the financial burden. Now when the injury is serious and permanent disability is likely, the insurance carrier needs good surgical attention to the injured employee, and, of course, the patient profits by having the services of a trained traumatic surgeon rather than those of his family physician, who may be an expert obstetrician, having little, if any, knowledge of fractures or infections."

Strange logic, indeed. Can you conceive of an expert obstetrician who is void of knowledge concerning infections?

Traumatic surgery a specialty? The fact of the matter is that 90 per cent. of plant accident cases come under the classification of minor surgery. Since when has the sewing up of a laceration, putting an extensive adhesive dressing on a man's back, bandaging a sprained ankle, removing a foreign body, taking care of an infection or burn case, the reduction of a fracture and its subsequent care become a specialty? By what process of reasoning and on what basis of fact is one justified in claiming that a plant doctor is technically better qualified to do this work than the general practitioner? If the care of plant accident cases is a technical specialty, and in order to be efficient in it, one must devote his entire time to the work, to the exclusion of everything else, then I voice my sympathy for the men in this work. From a technical point of view, I consider plant accident work, the most stultifying phase of the practise of medicine.

But I rather think Dr. Kuhn had in mind more the economical than the technical when he spoke of traumatic surgery as a specialty. If that is the case I heartily agree with him.

PAUL H. WEZEMAN, M. D.

EFFECT OF CORPUS LUTEUM AND OVARIAN EXTRACTS ON THE ESTRUS OF THE GUINEA PIG.—David L. Macht, A. E. Stickels and D. L. Seckinger (*American Journal of Physiology*, 88:65, February, 1929.)

Specially prepared water-soluble extracts of corpus luteum were studied in respect to their effect on the estrous cycle of guinea pigs by the vaginal smear method.

Injections of such extracts produced inhibition of the estrus and such inhibition of the estrus was accompanied by characteristic histological findings.

Inhibition of the estrus could not be produced by injections of other glandular extracts with the exception of the placenta which also tended to inhibit the estrus cycle.

ROTATORY AND REDUCING VALUES OF GLUCOSE AS INFLUENCED BY THE ADDITION OF MUSCLE TISSUE AND INSULIN IN VITRO.—John R. Paul (*Journal of Biological Chemistry*, 68:425, May, 1926).

Paul describes a study made in an attempt to control the factors of error which might lead to discrepancies between rotatory and reducing determinations of sugar solutions to which muscle tissue was added. The results of the experiments did not suggest that the specific rotation of glucose is altered by the addition of insulin to the glucose-muscle solution.

DIABETES INSIPIDUS.—W. R. Stowe. Australian Medical Congress (*British Medical Association*, 1927. *Medical Journal of Australia*, 1:445, March 26, 1927).

Stowe reported a case of diabetes insipidus associated with defects in the skull. The patient was a half-caste Maori boy. A skiagraphic examination of his skull revealed multiple deficiencies of a punched out circular character in nearly all parts. The clinical picture had been that of diabetes insipidus with exophthalmos. The condition had been diagnosed as one of dyspituitarism. Stowe quotes records from the literature of somewhat similar cases and said that the condition bore the impress of a disease rather than that of a purely developmental anomaly. This assumption was justified on the grounds that diabetes insipidus was sometimes associated with meningeal gumma and that it was hereditary in some families. He concluded by saying that the skull should be examined by x-rays in all cases of diabetes insipidus in children.

LADY WANT A CRACKER

Bird Cage and parrot offered by refined young lady having green feathers and yellow beak.—Ad in Salt Lake Tribune.

Illinois State Medical Society

PROCEEDINGS OF THE HOUSE OF DELEGATES

Joliet, May 20, 1930

The first meeting of the House of Delegates of the Illinois State Medical Society was called to order at 3:20 P. M., May 20, 1930, by the President, Dr. F. O. Fredrickson.

The President: I wish to call your attention to the fact that our immediate past-president, John E. Tuite, passed away about two months ago. I wish to call upon the House of Delegates to rise and pause silently for one minute.

The President: We will now listen to the report of the Credentials Committee, Dr. Nagel.

Dr. John S. Nagel: The Credentials Committee has certified fifty-four delegates from down state and fifty-six from Chicago.

The President: The next order of business will be the roll call.

The Secretary called the roll and announced that a quorum was present, fifty-two delegates from down state and fifty-four from Chicago Medical Society and nine members of the Council, a total of 115.

Dr. Nagel: Three presented themselves just at the close of filling the Chicago delegation. We had hold-over delegates from last year and by agreement between the officers of the Society and the Credentials Committee we decided to accept the three hold-over delegates and that after three o'clock, no more would be seated. This was done.

The President: I would like to entertain a motion to approve the action of the Credentials Committee.

(It is moved that the report be accepted. Motion seconded and carried.)

The President: The next order of business will be the reading of the minutes of the last meeting.

Dr. E. P. Sloan, Bloomington: I move that we dispense with the reading of the minutes and accept as the official minutes those printed in the July, 1929, issue of the ILLINOIS MEDICAL JOURNAL.

(Motion seconded by W. H. Maley and carried.)

The President: We will now listen to the reports of officers and Committees of the Illinois

State Medical Society. I call attention to the fact that in the reading of these reports you can make them as brief as possible.

Dr. E. P. Sloan, Bloomington: I would like to move that we accept the printed reports and that the officers and Council members be called upon for such additional information.

(It was moved that the official reports be accepted as printed. Motion seconded and carried.)

REPORT OF THE PRESIDENT

Your president, during his incumbency, reports two years of rather active and enjoyable service. It has been his privilege to appear before numerous county medical societies where his talks have been to a great extent on medical organization and economics. Only in three or four instances did he present scientific subjects. It is his opinion that the country medical society should be kept intact even though there are only a few members; and it is his belief that in most instances it is possible for several small counties to meet jointly, each county alternating in arranging programs. The removal of the county medical society, which after all is the unit of organization, would materially weaken the structure of the state organization.

He is convinced that never before has it been so important that the medical profession should present a united front against the encroachments being made upon it by corporations and institutes. He has therefore, laid considerable stress on the fact that the doctors should control medical practice in all its phases. This tendency, he believes, is a menace to medicine and public welfare. For this reason there should, from time to time, be included in society programs subjects on medical organization, economics, legislation, et cetera.

The attempt that is being made by corporations and institutions to practice medicine should be combatted. The law prohibiting the practice of dentistry by corporations in Colorado might be a basis for a similar law in Illinois prohibiting corporate medical practice in our state.

Your president has had the opportunity and privilege of organizing in the Chicago and Illinois State Medical Societies, a medical students' advisory committee to promote and arrange lectures for medical students and interns on medical organization, economics, legislation and ethics. These lectures are to be given under the auspices of the Chicago and Illinois State Medical Societies. Your president was appointed chairman of a central committee with the deans of the medical schools as members. Visits were made to the fifteen branches of the Chicago Medical Society and local committees organized for arranging lectures to interns in the hospitals located in their districts. The work of the central and sub-committees is going on with increasing enthusiasm and it is hoped that the plan may extend to other cities in Illinois. This, your president thinks, should add many loyal workers for organized medicine in the future.

During the past year contact was made with the medical officers of the Thirty-Third Division of the Illinois National Guard. A dinner was given in Rockford with about one hundred medical officers and the officers of the Illinois State Medical Society present. Similar dinners will be given each year.

At the request of the officers of the Illinois State Tuberculosis Association, the president gave a short address at the annual meeting held in Joliet last fall. He also gave a paper on "Safe Water Supply" before the annual meeting of the Izaak Walton League.

The courtesy and moral support that the Council has extended has been of considerable encouragement to the president during the year. Their kindly spirit shall always remain in his memory.

The rapid strides being made by the woman's Auxiliary in extending this organization demonstrates the distinct value of their work. The medical society should encourage their activities.

The president wishes to express his great satisfaction that the ILLINOIS MEDICAL JOURNAL still continues on the same high plane editorially and otherwise as it always has, thanks to the untiring efforts of the editor, Doctor Whalen.

The Committee on Medical Legislation, as usual, is exceedingly active. The members of this Committee deserve no small amount of praise for the efficient and effective work done by them for the benefit of the profession.

The Educational Committee has done much to bring about a common understanding between lay organizations and organized medicine. The programs supplied by the Scientific Service Committee has been a boon to the county societies. These programs are virtually a post-graduate course in medicine brought to the doctors in their respective communities.

An expression of appreciation is due to the section officers for their efficiency in arranging their respective programs.

In conclusion, your president is extremely glad that a new city, Joliet, has been added to our list where the annual meetings may be held. Never have we had better facilities for section meeting rooms, and exhibit hall. He is especially appreciative of the enthusiastic efforts on the part of the chairman and members of the Arrangements Committee to make this meeting a distinct success.

Respectfully submitted,

F. O. FREDRICKSON,
President.

The President: The next order of business is the report of the Secretary.

REPORT OF THE SECRETARY

Members of the House of Delegates:

Your Secretary reports the collection of the following sums for the balance of the year 1929 and the first four months of 1930, covering the year beginning May 1, 1929 and ending April 30, 1930. The first figure being read for each society represents collections from

May 1, 1929, to December 31, while the second is from January 1 to April 30, 1930.

Adams	\$ 8.00	\$ 536.00
Alexander .....	.....	144.00
Bond	64.00	72.00
Boone	112.00	.....
Brown	48.00	.....
Bureau	112.00	152.00
Carroll	144.00	128.00
Cass	80.00	.....
Champaign	56.00	488.00
Chicago M. S.	13,960.00	24,032.00
Christian	32.00	.....
Crawford	120.00	184.00
Clark	8.00	112.00
Clay	32.00	.....
Clinton	120.00	8.00
Coles-Cumberland	32.00	296.00
De Kalb	72.00	160.00
DeWitt	8.00	112.00
Douglas	128.00	120.00
Dupage	120.00	208.00
Edgar	56.00	120.00
Edwards	32.00	8.00
Effingham	128.00	64.00
Fayette	16.00	.....
Ford	8.00	136.00
Franklin	280.00	272.00
Fulton	16.00	288.00
Gallatin	56.00	24.00
Greene	152.00	112.00
Hancock	60.00	72.00
Hardin .....	.....	.....
Henry	64.00	192.00
Henderson	32.00	40.00
Iroquois	40.00	152.00
Jackson	72.00	152.00
Jasper	32.00	80.00
Jefferson .....	.....	.....
Hamilton	232.00	.....
Jersey	48.00	.....
Jo Daviess .....	.....	.....
Johnson	48.00	.....
Kane	856.00	368.00
Kankakee	352.00	312.00
Kendall .....	.....	.....
Knox	184.00	200.00
Lake	288.00	160.00
La Salle	32.00	560.00
Lawrence	144.00	.....
Lee	208.00	192.00
Livingston	264.00	224.00
Logan	240.00	16.00
McDonough	48.00	.....
McHenry .....	.....	160.00
McLean	120.00	488.00
Macon	280.00	644.00
Macoupin	264.00	.....
Madison	160.00	640.00
Marion	192.00	56.00
Massac	88.00	.....
Mason	88.00	.....
Menard	40.00	.....
Mercer	96.00	.....
Monroe	48.00	16.00
Montgomery	40.00	152.00
Moultrie	56.00	.....
Morgan	208.00	220.00
Ogle	184.00	.....
Peoria	256.00	552.00
Perry	128.00	.....
Piatt	96.00	.....
Pike	80.00	.....
Pulaski .....	.....	64.00
Randolph	168.00	152.00
Richland	88.00	.....

Rock Island	136.00	584.00
St. Clair	936.00	.....
Sangamon	256.00	312.00
Saline	64.00	144.00
Scott	40.00	.....
Shelby	40.00	88.00
Schuyler	8.00	.....
Stark .....	.....	.....
Stephenscn	24.00	208.00
Tazewell	144.00	88.00
Union	48.00	.....
Vermillion	368.00	448.00
Wabash	96.00	.....
Warren	200.00	.....
Wayne	152.00	16.00
Washington	8.00	120.00
White .....	.....	88.00
Whiteside	8.00	216.00
Will-Grundy	704.00	616.00
Winnebago	832.00	736.00
Woodford	104.00	.....
Williamson .....	.....	.....

Total	\$26,092.00	\$37,224.00
Exhibits	\$ 1,519.00	\$ 1,317.50
Subscriptions	52.00	42.00
Interest Treas. Account.....	478.31	194.49
Savings	389.07	.....
Bonds	500.00	540.00
Refund Bond Account.....	166.42	.....
Journal	11,000.00	11,200.00
Total	\$40,196.80	\$ 50,517.99

RECEIPTS FOR THE YEAR 1929

From County Societies.....	\$58,168.00
From Exhibits	2,926.50
Subscriptions	131.00
Journal	19,500.00
Interest, all sources.....	2,153.58
Refund Bond Account.....	166.42
Total	\$ 83,045.50

RECEIPTS FROM MAY 1, 1929, TO
APRIL 30, 1930

From County Societies.....	\$63,316.00
Exhibits	2,836.50
Subscriptions	94.00
Interest, Treasurer's Account.....	672.80
Savings Account	389.07
Bond Account	1,400.00
Refund, Bond Account.....	166.42
Journal, advertising	22,200.00
Total	\$ 90,714.79

DISTRIBUTION OF RECEIPTS

General Fund	\$31,826.92
Medico-Legal Fund	15,433.27
Legislative Fund	10,288.85
Journal Fund	33,165.75

Total Receipts	\$ 90,714.79
Balance, May 1st, 1929.....	75,829.70
	\$166,544.49

PAYMENTS

General Fund	\$67,040.63
Medico-Legal Fund	11,242.70
Legislative Fund	5,284.24
Journal Fund	23,387.14
Total Payments	\$108,954.71
Balance, April 30, 1930.....	57,589.78
	\$166,544.49

CASH BALANCES, APRIL 30, 1930

General Fund, overdrawn	\$13,397.61
Medico-Legal Fund	30,731.54
Legislative Fund	30,263.32
Journal Fund	9,992.53

Total Cash Balance..... \$ 57,589.78

Bonds are held in trust for the Society at the State Bank and Trust Company of Evanston, Illinois, totaling \$41,000.00.

The purchase of these bonds last year, using the savings account, caused the over-drawing of the general fund as reported above.

The cash balance as reported, is held by the Treasurer at the State Bank and Trust Company, Evanston, Illinois, together with the Bonds.

MEMBERS IN GOOD STANDING AS
REPORTED MAY 1, 1929—7,270

Dropped during the year:

By Death	117
Non-Payments, Removals and Expulsions.....	224

Reinstated during the year.....	107
New members during the year.....	449

Total Membership, April 30th, 1930.....	7,485
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The Society has made a net gain of 215 during the past year. The membership changes from day to day with losses by death, lapses, removals from the state, etc., showing the necessity for a constant effort on the part of all component Societies to increase their membership. On March 1, 1930, the actual membership was slightly above 7,500, but during April it was necessary to remove a number of members for non-payment of dues.

A complete financial audit covering the year 1929 and the first four months of 1930 was made by Fred N. Setterdahl of Rock Island, Illinois, showing the various receipts and expenditures as reported herewith, the audit covering the transactions of the Secretary, Treasurer, the Editor, the Educational Committee, and Medical History Committee.

The past year has been a highly successful one for the Society. The work of the Educational Committee is increasing as the popularity of that work increases. Through the careful management of Miss McArthur and her efficient committee, the expenditures of the committee's work was actually only 83⅓% of the appropriation made.

During the past year, quite a number of prominent members, including our immediate past president, Dr. John E. Tuite, were called to their eternal reward. A former Councilor, Dr. D. B. Penniman of Rockford, also was called by the Grim Reaper in March. These men had done much for the Society and, although in broken health, continued their good work until the end. We have lost two or three County Society Secretaries among whom was our old friend of years standing, Dr. D. D. Barr, Taylorville, one of the oldest Secretaries of the entire Society.

In closing his report, your Secretary again wishes to thank the many Secretaries for the co-operation

given during the past year. It is only through a complete co-operation that we can expect to progress and do the most good for the physicians and people of Illinois.

It is the opinion of your Secretary that the per capita dues of \$8.00 per member should continue, for the work is constantly increasing and at this time our per capita dues are lower than those of most similar societies and there is no question that we are doing more work than any of them, for the actual expenditures.

Respectfully submitted,

HAROLD M. CAMP, Secretary,
Illinois State Medical Society.

CERTIFICATE OF AUDIT

This is to certify that I have made an audit of the following accounts of your Society:

Dr. H. M. Camp, Secretary.

Dr. A. J. Markley, Treasurer.

Dr. C. J. Whalen, Editor.

Miss Jean McArthur, Secretary, Educational Committee.

Committee on Medical History for the year ended April 30, 1930, and found the accounts to be correct.

Detailed audit report has been furnished the Council.

Respectfully submitted,

(Signed) FRED N. SETTERDAHL,
Public Accountant.

The President: The next order of business will be the report of the Treasurer.

REPORT OF THE TREASURER

For the Year Ending April 30, 1930

RECEIPTS:

From the Secretary	\$ 66,246.50
From the Editor	22,200.00
Interest on Deposits	1,228.29
Interest on Bonds	1,040.00

\$ 90,714.79

Balance, May 1, 1929..... 75,829.70

Total\$166,544.49

PAYMENTS:

General Fund	\$ 67,040.63
Medico-Legal Fund	11,242.70
Legislative Fund	5,284.24
Journal Fund	25,387.14

Total\$108,954.71

Balance, May 30, 1930..... 57,589.78

Total\$166,544.49

Deposited State Bank and Trust Company,

Evanston, Illinois\$ 48,916.28

Deposit in Transit..... 8,673.50

Total\$ 57,589.78

There is held in trust at the State Bank and Trust

Company, Evanston, Illinois, in Bonds.....\$ 41,000.00

\$ 98,589.78

The remittance reported as in transit was received at the State Bank and Trust Company, on May 1, 1930.

Respectfully submitted,

A. J. MARKLEY, Treasurer.

The President: The next order of business will be the report of the Chairman of the Council.

REPORT OF CHAIRMAN OF THE COUNCIL

The Council has held six meetings during the past year; has ordered all bills paid when due, and has had the several accounts of the Society audited and certified to by the Fred N. Setterdahl Co., Public Accountants of Rock Island, Illinois. We report a substantial invested reserve and the business affairs in excellent condition.

We note with deep regret the passing of our immediate past President, John Tuite of Rockford, and have spread proper resolutions on the minutes of the Council, and a copy to the bereaved family.

We have also lost by death a former member of the Council, an untiring worker, David B. Penniman of Rockford.

The Council, through our Legislative Committee, is keeping in close touch with the Narcotic Bill, as well as the Jones-Cooper Bill, both of which smack of Federal Bureaucracy, and would, if enacted by Congress, be detrimental to our States rights, and a blow at individual endeavor by practicing physicians.

We note the growth of our Woman's Auxiliary, so that there are now thirteen in the State, all of which are doing excellent work, in acquainting themselves with our local problems. We predict a bright and useful future for the State and local Auxiliaries.

We commend the work of the Medico-Legal Committee, and note with interest the excellent manner in which every case is handled.

Our Journal has completed the most successful year in its history, in spite of the depression which is still with us. Our Editorials are read and copied the world over, and our Editor is known wherever Medical Journalism is known, for his foresight and fearlessness.

Your Educational Committee in seven years has attained a unique position in the Medical World, as nothing approaching its educational work can be mentioned at present, not excepting the American Medical Association.

11,000 Articles have been sent to 105 State Newspapers; 700 physicians have brought a health message in one year to more than 153,000 persons. More than 200 physicians have spoken in the five weeks from April 1 to May 7. 112 Radio Talks have been given reaching an estimated 20,000,000 people during the year. A new Station Broadcast is being added in the near future to be known as the Mothers' Hour over WJJD, and sponsored by the Chicago Pediatric Society. The Ophthalmological Society will be added in the near future. No organization of any kind in the world, to our knowledge, can compete with your Educational Committee.

The Council desires to thank the thousands of our members who have made possible our Educational work. We also wish to thank all those members who have assisted in our Legislative work, and in our Medico-Legal work.

Respectfully submitted,

R. R. FERGUSON, M. D., Chairman of Council.

The President: The next order of business will be the report of the Councilors.

1. Dr. Edward H. Weld, Rockford, reported for the First District, as follows:

REPORT OF COUNCILOR, FIRST DISTRICT

The First Councilor District has carried on its usual program for the past year. There have been a number of meetings in the various counties and several district meetings have been held.

The one held in Rockford was well attended, over three hundred being present. Two were held in Freeport each of which was well attended. There is a tendency to invite members of other County Medical Societies to attend the meetings. This increased number of attendance enables the Medical Society to invite a physician who is an authority on a certain subject, to address the meeting.

In some counties the custom of having weekly meetings has been established. These meetings take the form of a service luncheon where the current literature is discussed, worthwhile papers by different members are read, and civic and community problems are discussed. Best of all we "rub elbows," get to know each other and develop a friendship toward our co-worker.

Outstanding advance has been made in some of the larger centers of this district through the establishment of weekly pathological conferences. Here medical men not only hear the history of the case and the diagnosis, but they see the gross pathological specimen, hear the pathological diagnosis and see the microscopical sections. These conferences provoke discussion as to diagnosis and treatment which in themselves are mentally stimulating.

Winnebago County has been bereft of three well known medical men. Dr. T. N. Miller, always a resident of this county, a general practitioner, beloved by his patients, died within the year. Dr. John E. Tuite, the late past president of the Illinois State Medical Society, died this year following an illness of several months. Dr. David Penniman who was councilor of this district for several years and resigned because of ill health was called to rest. In the loss of these three men Dr. Miller, Dr. Tuite, and Dr. Penniman, Winnebago County and this district have seen three men depart whose lives were always an inspiration and whose activities and whose character stood for the betterment and the progress in the practice of medicine.

Respectfully submitted,

EDWARD H. WELD,
Councilor.

2. Dr. E. E. Perisho, Streator, reported for the Second District, as follows:

REPORT OF COUNCILOR, SECOND DISTRICT

The affairs of the Second Councilor District remain about the same as last year. The entire district is well organized, and so far as I know, about every man in active practice in the district belongs to the County and State Societies. There is general harmony prevailing throughout the district.

Putman and Marshall Counties have no organizations because of their small size and peculiar location, but all the men in the district belong to some adjoining county society.

Lee County has not been as active as they should have been. Whiteside, Bureau, La Salle, Livingston, and Woodford have had regular meetings with good attendance and good programs.

I have visited all the counties excepting Lee one or more times and have enjoyed the harmony, friendship, and courtesy they have all shown me.

I have attended every councilor meeting, as well as a number of outside district and county meetings, and have endeavored to keep in personal contact with all the secretaries of my district to assist them in every way I can. I have addressed several lay organizations on health talks for the Educational Committee. I have had no report of any damage suit or any trouble in the district, and can report each member loyal to organized medicine.

La Salle County has held a number of clinics in Streator, Ottawa, La Salle, and Mendota hospitals which have proven to be very interesting and instructive. Some counties have combined golf, picnics, dinners, etc., with their meetings to a very good advantage.

I find evening meetings with a 6:00 p. m. dinner followed by a program to be more successful than afternoon meetings.

Most of the counties have made use of the scientific program committee in securing speakers for their programs, as well as the educational committee for their public meetings.

I have encouraged the county organization of the women's auxiliary but as yet I have not met with much of any interest or success.

Respectfully submitted,

E. E. PERISHO,
Councilor Second District.

3. Dr. John S. Nagel, Chicago, reported for the Third District, as follows:

REPORT OF COUNCILOR, THIRD DISTRICT

The Third Councilor District comprises the following seven counties: Cook, Kendall, Kankakee, DuPage, Lake, and Will-Grundy.

The Chicago Medical Society, (Cook County) reports a very successful year, with a membership of over 4,000. Besides the central society, we have fifteen branches and some ten or twelve special and affiliated societies. During the year these organizations hold approximately 800 scientific meetings, and if we add to these, one staff meeting for each hospital once a month, we have a total of approximately 1,500 scientific meetings per year. Almost too many for one man to attend.

Will-Grundy County speaks itself this year as the entire membership has been working incessantly to make this meeting a success. Their programs during the year have been of a high character and have been well attended.

Kankakee reports some very interesting meetings during the year, and one all day clinic at the opening of their new hospital. The county society is in a healthy condition.

Our other County Societies report the average in attendance and interest and are awake to the necessity of keeping our County Medical Societies well organized and ready to do service for the State Society, in both scientific and economic problems.

Respectfully submitted,

JOHN S. NAGEL,
Councilor.

4. Dr. E. P. Coleman, Canton, reported for the Fourth District as follows:

REPORT OF COUNCILOR, FOURTH DISTRICT

The Councilor for the fourth district has attended all the council meetings and several county meetings in the district. Two of the smaller counties have had only organization meetings and have not attempted scientific programs. As proof, however, of the fact that the size of the county membership has nothing to do with the success of the meeting, it may be well to quote the results obtained in two counties in this district. One county that had not had a scientific meeting in ten years, and with a membership of five, held a meeting last summer at which two excellent scientific papers were given and with an attendance of over fifty. The other county, with eight members, has had several meetings with an attendance varying from about sixty-five at the smallest meeting to two hundred twenty-five at the annual meeting. With the help of the Scientific Committee and some judicious advertising done by Miss McArthur and the secretary of the local society it is thought that no county is too small to have high grade and successful meetings.

The larger societies are, in the main, in good condition and are having well attended meetings. In general this district seems to be in very good condition.

The only disturbing element has occurred in one county, where a factional fight of many years standing has culminated in a very distressing altercation over the question of hospital standardization. The altercation has received so much publicity that the entire profession seems to have lost caste with the public and all concerned have suffered, even to the hospital, which is an innocent victim. On two occasions, the Councilor, in company once with a committee from the council, attended meetings and essayed the role of peacemaker. It is to be feared that the result will be about the same as when any well-intentioned peacemaker attempts to help settle a family quarrel; no settlement is made and the peacemaker wins the enmity of both sides. The committee from the council, suggested that the various factions try to compromise their difficulties, and it is felt that as the trouble is of local origin, it must be settled by the local men involved.

With this exception, the fourth district continues to radiate peace and harmony, and good professional feeling seems to prevail throughout. Many hospitals have

built additions and medically, conditions for the future seem excellent.

Respectfully submitted,

E. P. COLEMAN, M. D.,
Councilor.

5. Dr. S. E. Munson, Quincy, reported for the Fifth District as follows:

REPORT OF COUNCILOR, FIFTH DISTRICT

Your Councilor for the Fifth District has been present at either single or joint meetings of seven of the nine counties in the District this year. The meetings have been well attended and full of enthusiasm.

The President of the State Society, Dr. F. O. Fredrickson, was in the District on three occasions. Two of these were joint meetings of two societies, well attended, and his addresses were well received. One of these meetings was held in Clinton early in October, following a luncheon by the DeWitt County Medical Society. In addition to the President's address, talks were made by Dr. Andy Hall, Director of Public Health, and by your Councilor. There was a full attendance with members also from Logan and McLean County Medical Society.

In the evening of the same day, a joint meeting was held by Ford and Iroquois Counties, with an address by the President and also the same speakers as at Clinton. There was a good attendance of these two Societies and also visiting Doctors were present from Champaign and Danville.

A meeting with fine attendance of Mason and Menard Counties was held in November at Mason City. This was also addressed by Dr. Fredrickson, and by Councilor E. E. Perisho of the Second District and Dr. A. L. Brittin, of Athens, former President of the State Society.

Dr. Fredrickson spoke at a meeting of the McLean Medical Society, November 12, with a large attendance. The Society always has a splendid attendance with royal entertainment.

Several of the Doctors from Sangamon County have filed engagements for the Scientific Service Committee,—at Chester in Randolph County, Carlinville, Delavan, and for the Sangamon County Teachers' Meeting the chairman of our Legislative Committee spoke. Your Councilor has been able to fill four or five engagements during the year when it was not possible to secure a speaker in time elsewhere.

A report from all the Societies shows there is a total membership in the Fifth District of 295, with a loss of 10 members and a gain of 13; making total gain 3. Four lost were by death, four by transfer, one by non-payment of dues and one no reason was given. The counties with the greatest number of meetings throughout the year were: Sangamon 13, McLean 10, DeWitt 10 and Iroquois 8.

The co-operation from the Secretaries of the County Societies is improving each year. Not mentioning special counties, there are some of the secretaries performing yeoman service, as indicated by the number of meetings and the attendance.

Your Councilor is suggesting that where County Societies have a small membership and ask for a speaker from a long distance, it would be well to have a joint meeting with adjoining counties on these occasions, so that the speaker may feel well repaid for the long trip in filling such engagements, sometimes from 150 to 200 miles by automobile.

We are still emphasizing the importance of small societies assisting each other by joint meetings and exchange of programs, thereby lessening the expense to the County Society and to the State Society through the Speaking Bureau of the Educational Committee. One of the small counties, DeWitt, furnished programs for six of its ten meetings last year. This is certainly commendable.

Respectfully submitted,

S. E. MUNSON,
Councilor.

6. Dr. C. D. Center, Quincy, reported for the Sixth District as follows:

REPORT OF COUNCILOR, SIXTH DISTRICT

To the Officers and Members of the Illinois State Medical Society:

Last year your Councilor for the Sixth District reported a Medical Society for each of the eleven counties in his district.

In this annual report the number must be reduced by one, since the society previously existing in Calhoun County has gone out of existence.

Calhoun County has five doctors, no large towns, no railroads and but little hard road, but your Councilor maintains that for purposes of organization and representation, a county with only four doctors can constitute a medical society.

In the matter of scientific meetings two or three of such counties might hold joint quarterly gatherings, sufficient at least to maintain touch with each other, and to provide a way for exchange of thought and sociability.

Your Councilor is more and more impressed with the desirability of holding an annual meeting of the presidents and secretaries of his various counties, together with such other members of these societies who may care to attend, rather than to depend on an annual visit, in person, to his various societies.

Last year in the sixth councilor district one such conference was held to considerable advantage.

This year no district conference was attempted. During the past year your councilor visited four of the county societies within the district, and was forced to decline invitations to two others on account of conflicting dates.

Respectfully submitted,

CHAS. D. CENTER,
Councilor.

7. Dr. I. H. Neece, Decatur, reported for the Seventh District as follows:

REPORT OF COUNCILOR, SEVENTH DISTRICT

Members of the House of Delegates:

The Councilor for the Seventh District has sent a questionnaire to all societies in the District and has tabulated the following information:

Macon County—160 eligible to membership; 93 members; Scientific meetings 9; Business meetings 11; Response, enthusiastic; One death, Dr. William Barnes, Decatur's most highly esteemed citizen and Surgeon.

Piatt County—16 eligible to membership; 12 members; Scientific meetings 2; Attends Macon and Champaign County meetings.

Moultrie County—11 eligible to membership; 7 members; Business meetings 1; One death, Dr. D. D. Grier, Windsor, Illinois.

Shelby County—10 eligible to membership; 10 members; Business meetings 5; Attends Macon, Coles and Christian County meetings.

Christian County—43 eligible to membership; 29 members; Scientific meetings 2; Two deaths, Dr. D. D. Barr, auto accident, Dr. J. Nelms, carcinoma of stomach, both of Taylorville, Illinois.

Effingham County—22 eligible to membership; 17 members; Scientific meetings 7; Business meetings 1; an active society.

Montgomery County—30 eligible to membership; 20 members; Scientific meetings 6; Active; One death, Dr. W. W. Douglas, Hillsboro, Illinois.

Bond County—8 eligible to membership; 8 members; Scientific meetings 2; Business meetings 1; Indifferent; Usually attend other society meetings.

Marion County—34 eligible to membership; 28 members; Scientific meetings 8; Business meetings 12; Active.

Clay County—18 eligible to membership; 10 members; Scientific meetings 9; One death, Dr. E. C. Webster, killed by train, Bible Grove, Illinois.

Clinton County—17 eligible to membership; 17 members; 6 meetings. Had active society last year.

Fayette County—No report received.

Total—298 eligible to membership; 234 members; 39 Scientific meetings; 31 Business meetings; 6 Deaths.

A careful analysis of this report shows that society activity for the most part is in direct proportion to the number of its members. With 164 eligible non-members in the District there is need for intensive work from active leadership in most of the counties.

Respectfully submitted,

I. H. NEECE,
Councilor.

8. Dr. Cleaves Bennett, Champaign, reported for the Eighth District as follows:

REPORT OF COUNCILOR, EIGHTH DISTRICT

During the last year there has been nothing out of the ordinary in medical circles in the Eighth District so far as I know. All of the counties have active organizations; and I think that the small ones do fully

as well as the large ones when their facilities are considered. I have been notified of no professional trouble of any consequence.

Vermilion, Champaign, and Coles-Cumberland have large societies and all three have had unusually good meetings.

The subject of securing laboratory service is quite important to the men in the smaller towns. Different plans are being considered; in all probability some one man, either in the employ of or with the sanction of the members of the county society, will arrange to supply it. It seem to me that that plan will work out better than any other of which I have heard.

The local activities of some of the societies are lessened somewhat by the constant invitations from neighboring hospital staffs. While these invitations are cordial, well meant, and interesting, I hope that they will not be extended to the point where they supplant meetings "of, by, and for," the local men.

Respectfully submitted,

CLEAVES BENNETT,
Councilor.

9. Dr. J. W. Hamilton, Mount Vernon, reported for the Ninth District as follows:

REPORT OF COUNCILOR, NINTH DISTRICT

The ninth district is composed of twelve counties; most of the southern counties are very small and have but few doctors especially those bordering on the Ohio River, which makes it very hard for them to keep a regular society going.

Jefferson-Hamilton Counties were consolidated into one society about two years ago, but the council decided afterward that it would not be best to unite any more except for the social and literary benefit as it deprived so many of the counties from having a delegate to the state society.

There has been quite an interest all over the district the past year and owing to the hard road system over this part of the state making it easy for Physicians to attend other societies has kept the interest up in a very fair condition.

Franklin, Williamson and Saline counties all have fine organizations and are doing good work. Wabash, Gallatin, Massac, Wayne and Johnson counties all have fair societies and are having good programs from three to four times a year.

The other counties have occasional meetings and all attend other society meetings, so taking all in all the ninth district is in fairly good working condition.

The physicians are all good active and ethical men and no discord among them as a whole. I have never attended a meeting anywhere in the district but what had a good attendance ranging from fifteen to sixty in attendance, many of them coming from adjoining counties but the interest has been fine and everybody enjoyed themselves. The number of irregulars are very few and we have practically no trouble from that source.

This district will compare favorably with any other district in able and honorable practitioners.

Respectfully submitted,

J. W. HAMILTON,
Councilor.

10. Dr. J. S. Templeton, Pinckneyville, reported for the Tenth District as follows:

REPORT OF COUNCILOR, TENTH DISTRICT

Medical organization continues to thrive in Southern Illinois. More good meetings have been held, during the last year in this territory than ever before and with better attendance.

Alexander County held nine meetings. As usual they took a vacation during June, July and August. They had seven home talent speakers, and two meetings supplied by foreign talent, they invite physicians in their neighboring counties of Illinois, Kentucky and Missouri. They had one out-standing meeting during the year, when Dr. Andy Hall, Public Health Director, and Dr. C. P. Coogle of U. S. Public Health Service addressed them, this was a joint meeting of the Pulaski and Alexander County Societies, and was attended by more than one hundred physicians and citizens of these and surrounding counties. Cairo, the county seat of Alexander County and its hospitals, are a natural home to the physicians of the river counties around the point of union of Ohio and Mississippi Rivers. Alexander has not lost a member by death since that of our esteemed friend, Dr. Grinstead.

Pulaski County held six meetings, and are having a hard time to keep up their organization; they are asking to be combined with Alexander County.

Jackson County had ten meetings last year, with seven papers of foreign talent, and thirteen papers of home talent, in November they held a two-days session at St. Andrews Hospital in Murphysboro, demonstrating the facilities of hospitals for diagnosis and treatment. Jackson is one of five counties, combined and holding a meeting each week, except during the summer season. They also entertained Drs. Hall and Coogle at one of their regular meetings.

Monroe County held but one meeting last year and were addressed by a physician from St. Louis.

Randolph County held six meetings, using some of both local and foreign talent; they invite members of other county societies, and held some real good meetings during the year. They have a good Ladies' Auxiliary functioning, whose president is Mrs. C. O. Boynton of Sparta.

St. Clair County held nine meetings. Among the prominent speakers were Dr. M. L. Harris of Chicago, Dr. J. Koch of St. Louis, Dr. L. D. Thompson of St. Louis, Dr. Logan Clendenen of Kansas City, also Dr. Bredeck of St. Louis. The St. Clair County Society dismissed in November that their members might attend the Southern Illinois meeting at Benton, in a body. Belleville branch of St. Clair County Society held ten meetings, mostly using foreign talent. They had an out-standing meeting at Marissa Country Club in September, when Dr. Fredrickson, our State

President and Dr. Andy Hall gave addresses. This society lost one member during the year, Dr. C. J. Rayhill of Belleville. St. Clair County also lost Dr. Edgar H. Little of East St. Louis.

Washington County does not have regular meetings. They pay their dues, and depend on the State and A. M. A. Journals. Robert C. Poos, of Okawville, a veteran of the Medical Profession of Southern Illinois, died during the year.

Union County held nine regular and two extra meetings during the year. Drs. Coogle and Hall addressed them on the subject of Malaria, and their other meetings were about equally divided between home and foreign talent. Union County is fortunate in having a State Institution in Anna where clinical material is abundant.

Perry County held six meetings last year. If any of them were out-standing, it was the visit of Dr. Kreuscher and his assistant Dr. Woldenberg, when the Crippled Children's Clinic was held in Du Quoin, and when the Soper-Mills Clinic gave a Symposium on Pneumonia at Pinckneyville. Perry County lost one of its veterans in the person of Dr. J. J. Boenheim, who had practiced medicine for more than thirty years in Du Quoin.

Since the first of April, has occurred the death of Dr. A. R. Carter of Murphysboro, who had also practiced medicine in Jackson County for more than thirty years, and had only retired a few months past on account of his health. And on May 5, Dr. L. B. Shore was taken by the Angel of Death at the age of forty-seven years. Dr. Short's residence was on Signal Hill between Belleville and East St. Louis, but he had practiced in East St. Louis the past twenty-four years. He was a well known throat specialist and had served over seas in the late war.

Respectfully submitted,

J. S. TEMPLETON,
Councillor.

The President: The next order of business will be the report of Committees.

REPORT OF THE LEGISLATIVE COMMITTEE

When the annual report of your Legislative Committee was submitted, in Peoria last year, the Illinois State Legislature was still in session and the ultimate outcome on a number of important legislative matters had not been decided. Your Legislative Committee, therefore, takes pleasure at this time in reporting that no laws were enacted by the 56th General Assembly, which were opposed by the Medical Society. Out of the 1,357 bills introduced there were nearly 150 that had a bearing on the medical profession and the public health. It was necessary to actively oppose 50 of that number. A member of your Committee appeared at 60 different committee hearings. Many of these were short while others consumed several hours.

The usual number of unwarranted Cult Bills were advanced and met with defeat.

The Anti-Vivisectionists were a new group who sought legislative favor. They employed a very able

attorney and their campaign was adequately financed and they had a very imposing lobby of cultured and beautiful women. Without some study a physician does not realize the far-reaching disastrous results that could occur if this group were successful in passing an Anti-Vivisection Bill. The disadvantage of using dogs and lower animals for experimental purposes and claims of the brutal treatment of dogs were exploded when a committee from the State Senate visited Northwestern Medical School and made a personal investigation of the kennels and the treatment that the dogs received. Although the bill was not reported out of committee last year we are advised that a more persistent effort will be made at the coming session of the legislature in an effort to pass a similar measure.

Dr. A. C. Ivy, of Northwestern Medical School, and Dr. A. J. Carlson, of the University of Chicago, were pivotal in the Chicago Organization and made it possible to defeat the Anti-Vivisection Bill. The Sanatologists were unusually active with their insistent demand for recognition. To read their claims should be sufficient for any well-thinking person to refuse to support a bill of that type, however, they received nearly half of the constitutional majority of the votes in the House which conclusively demonstrates that all matters pertaining to the healing art must be continually supervised by medical men so that legislators may have the advantage of professional advice when considering medical matters.

A ludicrous effort on the part of a famous "Ritholz family" of Chicago to legalize mail order optometry was defeated in the Judiciary Committee by a vote of eighteen to three. If this measure had not been opposed by the Medical Society, in all probability it would have become a law which would have permitted the itinerant spectacle man to again ply his nefarious trade among the rural districts, reaping a rich harvest without interference by law.

Several old age pension bills went into the discard. Old age pensions are not far removed from a universal compulsory health insurance law, and both are closely related to State medicine.

It is surprising the amount of money the Cults spend each year for legislative purposes. Some members of the Illinois Medical Society feel that their small annual dues are excessive yet there is hardly a Cult but that exacts more than \$100.00 dues from each of its members each legislative year. Through the excellent efforts of the Chicago Councilors and the Secretary of the Educational Committee a list of the members of the Chicago Medical Society in each senatorial district was furnished your Legislative Committee and it was comparatively easy, therefore, to get the proper information regarding any pending bills to the various districts so that the legislators could be interviewed frequently when they were home over the week end during the legislative session. The Editor of the ILLINOIS MEDICAL JOURNAL was very kind in publishing all communications regarding legislative matters which aided in disseminating information that was of interest to the profession at large. The Officers of

the Society, together with the down-state Councilors were ever ready to co-operate with your Legislative Committee, and no request from that committee was unheeded.

During the present year there have been a number of problems before Congress which are of interest to the physicians of Illinois and your Legislative Committee has kept in close contact with such situations. The two outstanding problems now existing in Congress are: The proposed Porter Narcotic Bills and the Sheppard-Towner measure, under the new name of the Jones-Cooper Bill.

The Trustees of the American Medical Association selected an Advisory Committee of five physicians from various parts of the United States to confer with Representative Porter, the sponsor of the Narcotic Bills, at Washington. One of the members of the Legislative Committee of the Illinois State Medical Society was selected for that group. That conference has not been called as yet by Mr. Porter. The Committee, however, has amassed a wealth of information regarding the Narcotic situation. Illinois was one of the three remaining States that refused to accept the Sheppard-Towner subsidy and it is rather paradoxical that the infant and maternal mortality in those three states is much better than many of the states which accepted the Sheppard-Towner Act.

We have received many letters from Congressmen all willing to give the Narcotic Bills and Maternity Bill careful consideration before taking any action. The following letter from Representative Henry T. Rainey shows the advantage of co-operating with and advising your Congressman regarding proposed laws that are inimical to the medical profession.

"Dr. J. R. Neal,

"Chairman State Legislative Committee.

"Dear Dr. Neal:

"I am glad to have your letter of April 26 with enclosure which I will carefully study. The fact that the Illinois State Medical Society studied all these propositions and is against them in practically conclusive and binding on me.

"I do not serve on the Committee which has these matters in charge and therefore I have not studied the bills in their present form nor the reports, but I will do so at once, and I have not the slightest doubt that I will be able to agree with the position taken by the Illinois State Medical Society. I have great confidence in the suggestions of your organization and I greatly appreciate your communication.

Very truly yours,

H. T. RAINEY,"

Another item of interest which may be properly contained in this report is the receipt of a letter from one of the largest Medical Schools in Illinois inviting a member of the Legislative Committee to address the student body regarding the future responsibilities in reference to legislative activities. He calls attention to the fact that 90 per cent. of this student body will practice in Illinois. The writer of the letter calls attention to the fact that these students are in the formative state

of mind and are receptive to many ideas communicated to them. He further states that the Medical Students should, in his opinion, have an early contact with the leaders in their State Medical Society. For, as he puts it, they will be our future leaders and very pointedly concludes his letter with the following statement in reference to those students:

"They should begin early to realize that they cannot be rabidly individualistic, but must develop an interest and must be impressed with the idea that health and medical legislation is their business."

The Legislative Committee of the Illinois State Medical Society desires to acknowledge the very excellent co-operation received from all sections of the State.

Respectfully submitted,

E. BOWE, M. D.,

C. E. HUMISTON, M. D.,

J. R. NEAL, M. D.,

Legislative Committee.

The President: We will now have the report of the Public Policy Committee:

REPORT OF PUBLIC POLICY COMMITTEE

Members of the House of Delegates:

There was but one meeting of the Public Policy Committee held during the year, at which were present Dr. H. J. Way and myself.

There was no work for the committee to do, as nothing was referred to them by the officers of the State Society or its committees, and no activities of importance came directly under their supervision.

The fact that no problems of importance have come before the committee is very gratifying as it indicates that all is well with the Society, and that the officers are taking good care of all matters of moment.

The members have but few recommendations to make, but believe that the committee is an important one, and many things could be referred to it that now are taken care of by others, and thus, at least, give the committee something to do.

For instance, the medical profession is increasingly having trouble with the insurance companies in caring for industrial cases. Some societies have their Public Policy Committee so organized, that the complaints can be sent to them from members, the committee can take the matter up with the Insurance people and get an equitable adjustment. This is something that the rank and file of the members would be glad to see.

At this time there are a number of Broadcasting Quacks putting out their propaganda, to the detriment of the medical profession. This committee, we believe, is the one to take up such things with the officers of the Medical Society, Legislature, and perhaps the Federal Radio Commission.

The Public Policy Committee of the Chicago Medical Society has been able to bring within bounds many of these quacks, and this committee could do the same.

Respectfully submitted,

W. S. BOUGHER, Chairman,

GEORGE MITCHELL,

HARRY J. WAY.

The President: We will now have the report of the Medico-Legal Committee.

REPORT OF THE MEDICO-LEGAL COMMITTEE

For the year ending May 1, 1930, there were eighty suits pending as compared with eighty-six on May 1, 1929. The total number of claims to May 1, 1929, were thirty-nine, as compared with thirty-three for May 1, 1930. This is a decrease in the number of suits for the last two years. There have been three expensive suits defended. Two of them sponge cases and one a Lane plate case. The sponge cases are our serious cases. The law is not favorable to the doctor in these cases. A sponge found is evidence that it was left by the surgeon, and the burden is then placed on him to prove his innocence, and it cannot be shifted to the Hospital or Assistant without great difficulty.

The Committee has received the co-operation of the profession in the defense of these cases.

Your Committee has been successful in suppressing newspaper notoriety for the last two years, with the exception of one case in Chicago. I hope this holds true down-state. As far as our information goes we believe this to be a fact. The Committee promised, however, to give information in these suits if judgment was secured and newspapers asked for it. The Committee still believes that the careless word and disagreement among doctors are a cause of most damage suits.

The Committee's relations with our new attorney, Mr. Francis X. Busch, have been most pleasant. The Committee does not favor the settling of cases of doubtful liability because of the effect it may have on the possibility of increasing the number of mal-practice suits.

We believe the fine co-operation between our attorney and the attorneys for the insurance companies, when doctors carry insurance, in defending their cases, have been the cause of the smaller number of cases being sued.

Respectfully submitted,

J. R. BALLINGER,

Chairman Medico-Legal Committee.

The President: We will now have the report of the Scientific Service Committee.

REPORT OF SCIENTIFIC SERVICE COMMITTEE

During the past twelve months this sub-committee has continued to function as a speakers' bureau. A detailed report shows ninety-eight speakers have appeared in forty-two different counties, indicating nearly half the counties in the state are making some use of this committee. Two clinics for crippled children were arranged and conducted by Warren and Perry County Medical Societies.

The weak spot in the work of the Committee is the fact that a greater number of speakers have been supplied from Chicago than from down-state. However, there are two factors which should be considered. Chi-

cago men are more easily reached by telephone and a great many of the counties are more accessible to Chicago men than they are to down-state men who many times find it impossible to fill appointments. The hopeful feature is that

It is becoming easier to co-ordinate the facilities of Doctor Camp's office with those of the Educational Committee and the sub-committee. The Schuyler County meeting last fall shows what can be done when a determined effort is made. This society with a membership of 8 physicians arranged a meeting for September 26, which was attended by 192, some of them coming a distance of one hundred fifty miles or more. The program was arranged by the Scientific Service Committee, invitations were sent to 400 physicians with the help of the Secretary, Doctor Camp, and 168 newspaper notices were released through the office of the Educational Committee. This can be duplicated in any other county and will help to avoid the criticism, so often made, that the attendance at county meetings is very small. All three of the above agencies are prepared to co-operate with the societies in every way possible.

Medical schools have given excellent co-operation to the Committee and the Deans have been glad to send speakers. A new list of subjects with names of speakers was compiled last fall and sent out to all county secretaries.

An increased percentage of the papers given during the last twelve months have been on obstetrics and pediatrics. These programs seem to be of interest to practically all physicians. Illinois is doing as much in the field of post-graduate work in obstetrics and pediatrics as any other state in the union.

With the introduction of the Jones-Cooper Bill behind which is a renewed effort to continue in a more pernicious form the activities of the Sheppard-Towner Act, it becomes increasingly important that our Society take definite steps toward improving the maternal and infant mortality rate in this state. While our rate compares favorably with surrounding states which suffer from Sheppard-Towner activities, that is no reason for letting down in our efforts to still further reduce this rate. Doctor Andy Hall, Director of the State Department of Public Health, is particularly anxious to assist county societies in improving conditions in their own county. An investigation by the Will County Society shows that the high infant and maternal mortality rate in that county is not due to any laxness on the part of the medical profession but to several reasons over which they have little control. However, this county society is planning to make a study of the situation and hopes that as a result, certain conditions will be modified.

A list of counties, speakers appearing at meetings and subjects discussed follows:

Henry—Jerome R. Head—Surgical Aspects of Lung Disease.

Henry—D. J. Davis—Pathological and Bacteriological Aspects of Lung Abscess and Gangrene.

Mercer—Sidney Easton—Backache.

Bureau—Charles M. McKenna—Pre- and Post-Operative Management following Prostatectomy.
 Bureau—F. F. Maple—Puerperal Sepsis.
 Rock Island—Philip H. Kreuscher—Arthritis.
 Williamson—H. E. Irish—Non-Surgical Acute Abdomen in Children.
 Iroquois—G. F. Thompson—Gall Bladder Surgery.
 Carroll—E. S. Murphy—A Medical Subject.
 Carroll—F. G. Murphy—An Orthopedic Subject.
 Ogle—Channing Barrett—Diagnosis and Treatment of Extra-Uterine Pregnancy.
 Ogle—George de Tarnowsky—Treatment of Fractures.
 Winnebago—Paul B. Magnuson—Primary Care of Fracture as Compared with the Relief of Deformities following the Mal-Adjustment of Fractures.
 Rock Island—Edmund Andrews—Diagnosis of Chronic Abdominal Pain.
 McDonough—Fred H. Falls—Obstetrical Subject.
 Christian—J. A. Ikenire—Internal Secretions.
 Du Page—N. S. Davis III.—Medical Subject.
 Jackson—J. Vaughn—Gynecological Subject.
 Macoupin—Aldo Germann—Some Problems in Sterility.
 Macoupin—H. J. Jurgens—Minor Surgery.
 Perry—S. C. Woldenberg—Posture.
 Marion—C. L. Martin—Treatment of Hemorrhoids by Non-Surgical and Operative Methods.
 Perry—Philip H. Kreuscher—Bone and Joint Subject.
 Rock Island—W. L. Brown—Some Therapeutic Principles Involved in the Use of Radium and X-Ray.
 Coles-Cumberland—Clifford E. Grulee—Essentials in the Care and Feeding of the Newborn.
 Indianapolis, Indiana—W. G. Brown—Obstetrics.
 Iroquois—H. M. Hedge—Common Diseases of the Skin.
 Schuyler—W. D. Chapman—Puerperal Care.
 Schuyler—H. L. Kretschmer—
 Schuyler—J. H. Hutton—Endocrine Disturbances Occurring in General Practice.
 Marion—J. H. Hutton—
 Whiteside—Eugene Parry—Results of Obstructions of the Lower Urinary Tract.
 Whiteside—E. E. Perisho—
 Rock Island—Aaron Arkin—Gastro-Intestinal Diseases.
 Will-Grundy—Francis Eugene Seneat—Modern Conceptions Concerning the Treatment of Syphilis.
 Coles-Cumberland—H. E. Irish—Prevention and Treatment of Heart Disease.
 Iroquois—Clement L. Martin—Treatment of Hemorrhoids by Non-Surgical and Operative Methods.
 Will-Grundy—Wallace S. Grosvenor—Thirty Years of Obstetrical Experience.
 Rock Island—William F. Petersen—Protein Therapy.
 Will-Grundy—Clement L. Martin—Treatment of Hemorrhoids by Non-Surgical and Operative Methods.
 Kankakee—A. J. Larkin—Everyday Uses of Radium.
 Franklin—A. A. Goldsmith—Gastric and Duodenal Ulcer.
 Douglas—Arthur Abt—Immunization.
 Will-Grundy—Joseph Greengard—Pediatrics.
 Henry—Edwin W. Hirsch—Pathology, Diagnosis, and Treatment of Prostatic Hypertrophy.
 Henry—Clement L. Martin—Proctologic Problems of

General Interest.

Mercer—R. W. Packard—Medical Economics; Lucius H. Zeuch—Pioneer Physicians and Shrines of Western Medicine.

Marion—Alfred E. Koehler—

Fulton—John R. Neal—

Respectfully submitted,

JAMES H. HUTTON,
Chairman.

The President: We will now have the report of the Educational Committee.

REPORT OF EDUCATIONAL COMMITTEE

In looking over the record of the year's work of the Educational Committee, one is aware that an increasing number of lay organizations are seeking advice and co-operation from organized medicine. Members of these groups with representatives of the Committee have sat together many hours talking over and discussing the methods of co-operation and endeavoring to come to a better understanding. That at least a foundation has been established is shown by statements which have been made by their officers both privately and publicly. Your Committee has had opportunity to study some of these important questions which affect both the profession and the public.

Special mention might be made of the Illinois Congress of Parents and Teachers whose state officers have been so anxious for the guidance of the medical profession and who realize the importance of medical advice and co-operation in order to secure satisfactory results in their health program. The "Summer Round-Up" is one of their major objectives. The Educational Committee and every physician in Illinois realizes the tremendous educational value of such a movement to the parents of school children. Children should be sent to school physically fit. The family physician is the one best able to judge that fitness. The Committee has always maintained that the logical place for the examination of the pre-school child, or any other person, was the office of the family physician. That this is more satisfactory to the parents is shown by some of their statements.

"We feel in another year it would be better to have examinations held in the doctors' offices where they will have more adequate means of carrying on the work." "Our doctors and dentists were very glad to co-operate with us and they much prefer having the children come to their offices and the mothers liked it better than taking them all to the grade school building as we did two years ago." "The majority of children were examined in their physician's office."

The Illinois Congress of Parents and Teachers are emphasizing the importance of follow up for the correction of remedial defects following the pre-school examinations. They are also stressing the fact that the responsibility of these health questions rests upon the shoulders of the parents.

The securing of co-operation may seem slow, but your Committee has found that this slowness has

brought about a more solid foundation for future co-operation and friendliness.

Assistance has been given the Chicago Woman's Club and members of the Committee have met with the women to discuss a campaign for education of the public as to early danger signals of cancer. A plan of educational publicity was drawn up and sent to the Chicago Women's Club for use as they might see fit. The medical society has itself taken an interest in promoting a more comprehensive view of the cancer problem. Speakers have been assigned to address large public meetings, films and pamphlets secured. The public seems to be more willing to hear these talks now that they know there is a hopeful aspect in the early recognition of the disease.

The splendid co-operation given by the Chairman of Public Health and Child Welfare of the Illinois Federation of Women's Clubs has been appreciated by the Committee. She has assisted in promoting an intelligent understanding of certain health problems throughout the women's clubs of the state. Many physicians of Illinois have been invited to take part in health programs of the clubs.

The Chicago Section of the National Council of Jewish Women, through their Public Health Chairman, have been aided by the Committee. Programs have been arranged for mothers' clubs in various schools. Health plays, songs, and films have been furnished to principals. Assistance will be given during the summer months to plans which the Council has made to present simple educational health talks to the mothers spending vacations at the summer camp, Wauconda.

The University of Illinois Home Economics Extension Service has sought the advice and assistance of the Educational Committee in its work with Home Bureaus. Several county units held meetings during the year with speakers from the Illinois State Medical Society. Some of these groups requested that physicians talk on "immunization." At the present time a group of leaders of a county Home Bureau is planning a special meeting when a pediatrician will discuss some of the health problems relating to the normal child. It is expected that this will pave the way for a series of talks.

The Secretary of the Civic Federation of Chicago has often given his support to the Society and has offered suggestions as to how the public might be informed about pernicious bills such as the Sheppard-Towner Act and its related bills.

The Illinois State Dental Society has co-operated with the Committee in taking care of speaking appointments. They have also been represented on the Advisory Council of the Child Hygiene Division of the State Department of Health which has met monthly to talk over problems affecting the physician, the dentist, the nurse, and the lay groups.

Members of the Committee were present at the organization meetings of the Elks Foundation for Crippled Children and the Foundation has definitely stated that clinics will be held only in counties where the medical society approves and that no patients will be admitted

to these clinics unless accompanied by the family physician or with his consent. There are still some mistakes to be ironed out; but the Elks wish to go along with the Illinois State Medical Society.

The Women's Auxiliary has taken its place in many counties as a group anxious to learn and willing to assist the medical profession when possible. It has always been a pleasure for the Educational Committee to co-operate with them. Material has been compiled and furnished to those auxiliaries making a study of certain live medical questions. Speakers have been furnished to those holding regular meetings and to others sponsoring public meetings. Publicity has been sent to newspapers relative to these meetings. This service has been given without cost to auxiliaries. There is a definite place for this organization and its members can be of real service and value in promoting the right kind of health education. The Educational Committee is glad to aid.

Superintendents and Principals of schools in Illinois have evidently appreciated the fact that speakers may be secured from the Medical Society. Hundreds of physicians have given health talks before teachers' institutes, high school and grade school assemblies. Moving picture films, health plays, and poster exhibits have been furnished.

The Educational Committee did a tremendous amount of work in supporting Health Promotion Week as sponsored by the State Department of Public Health. About two hundred health talks were arranged and more than a thousand special health articles were released to Illinois newspapers.

Five hundred seventy health talks have been given by physicians scheduled through the Speakers' Bureau—this does not take into consideration the many others of which no record has been made. The public values this service.

The president of a club of young business men reports: "It is certainly gratifying to a layman to know what the medical profession is trying, with all its might, to accomplish for the human race." The president of a Woman's Club writes, "A most beneficial and interesting talk most ably given. The Medical Society is doing a wonderful work and should be sincerely complimented." Following a program given by a physician before a teachers' institute, the county superintendent of schools reports, "Allow me to express my appreciation, and the same of the teachers of this county, to you for sending Doctor A. to lecture to our institute. It was splendid indeed and well received by 350 public school teachers." Another county superintendent writes, "The doctor gave a very splendid address. Every person was much interested and would have sat for another period to listen. Address full of common sense and helpful suggestions." The president of a Parent Teacher Association states, "This lecture was without a doubt one of the best we have ever had the privilege of hearing." A County Adviser of a Home Bureau reports, "We were very well satisfied with the talks and we certainly thank the Illinois State Medical Society for co-operating with the Home Bureau. I am

sure that the Bureau women have appreciated this opportunity of hearing these doctors." Finally, the health officer of a large university sends in this comment, "He gave an excellent address to a most appreciative and receptive audience. I cannot but feel this type of educational work means a great deal to the medical profession but far more to the public."

Physicians addressing lay audiences discuss subjects of current interest. Many talks have been given on Immunization, Vivisection, Hospitals, Child Health and May Day, Colds, et cetera.

A series of lectures were given in the South Chicago Y. M. C. A. with an average attendance of ninety men. The health director reports, "I am writing to tell you again that we appreciate very much this service that you are giving. I assure you that if ever we have the opportunity to boost the Illinois State Medical Society, we shall surely do so." Another series was also given before the Pre-Medical and Pre-Dental Club of the Central Y. M. C. A., Chicago. The subjects taken up were Medical Economics, Anti-Vivisection and Animal Experimentation, Physio-Therapy and the Endocrines.

Short snappy health talks were given at noon in some of the large industrial plants of Chicago. Fifteen talks were given in one county in connection with a county-wide diphtheria immunization campaign. Over four hundred women attended the public meeting which was sponsored by the Woman's Club of Paris. The chairman sent in this report of the talk given by a member of the Speakers' Bureau: "The Doctor gave a wonderfully interesting and educational talk and the close attention given him by the large crowd present speaks for itself."

An opportunity was given the Committee to send several colored physicians to address groups of mothers and the students in some of the larger colored high schools of the state.

It is hoped that the people who listen to these health talks do more than absorb that which they hear. The receiving of information is only worth while when it is put into use. The Committee cannot but think that some seed has taken root in the minds of the thousands of men, women and children of the state who have heard these lectures.

One hundred twelve radio talks have been given over stations WGN and WJJD. These programs have been made possible through the courtesy of their managers who give ten minute periods, without charge, to the medical profession to broadcast educational talks. This service is tremendously appreciated. Physicians have been most willing to give their time and thought to prepare short, interesting articles which they broadcast after approval has been granted by members of the Committee. Many letters are received from all parts of the country. A typical one comes from a man in northern Wisconsin, "This common sense talk, delivered in language understandable to even the most uneducated, was enlightening and expressed the ideas which may be practiced easily and readily. I am of the opinion these health talks will do much to relieve many of the minor ailments now common to the average person."

In addition to these talks, a new series has been inaugurated over station WJJD. This is known as the Young Mothers' Club. Short health talks will be given each morning by members of the State Medical Society. All phases of health and care of the child will be covered. Members of the Chicago Pediatric Society and other special societies are giving their time and co-operation to make this new series, sponsored by the Committee, of real educational value to the mothers of the middle west.

Under the miscellaneous service the office of the Committee has given to individuals, may be listed the package libraries of popular health material which have been of value to physicians. Hundreds of these folders have been sent to all parts of the state. Poster exhibits and moving picture films have been used for educational purposes. Special material on hospitals was compiled for physicians whose county societies planned to publish educational articles in local newspapers.

Other state societies and the Director of Education of Porto Rico and the President of the Porto Rico Medical Society have asked for copies of material used by the Illinois State Medical Society. Two educational articles have been written and submitted to the Commissioner of Health of the City of Chicago for publication in the *Chicago's Health*.

During the past twelve months particular emphasis has been placed upon the publishing of news of county medical societies. In fact, the Committee has sent out 2,348 news releases of county medical meetings as well as those of the Chicago Medical Society and its fifteen branches. This service seems to have been popular as shown by the comments received from secretaries of the societies:

"I wish to thank you for the interest you have taken in this matter, and for the announcement you intend to send out to help make this meeting a success."

"We appreciate very much the news service you are giving us."

"I have always felt that one great trouble with our meetings has been that we have not used the newspapers nearly enough in announcing our programs."

"I wish to express to you my appreciation for your effort in getting some newspaper publicity regarding our County Medical Society. We had about a dozen more in attendance at the last meeting and a number were from outside the county."

One hundred forty-seven new educational articles were written and approved by the Committee.

Five thousand eighty-two health education articles were released to Illinois newspapers to be used over the signature of the local medical society or the state society.

Two thousand three hundred forty-eight notices of meetings were sent to newspapers.

Three thousand two hundred fifty special articles released referring to epidemics, state meetings, health week, diphtheria immunization, summer clinics, proposed extension of the Sheppard-Towner Act.

The Educational Committee has tried to keep the county medical societies informed of what has been

going on. This has been done through reports to secretaries, articles published in the *ILLINOIS MEDICAL JOURNAL* and bulletins of county societies, and frequent talks given by members of the Committee and the Secretary. Letters have been sent out about the "Summer Round-Up," the establishment of minimum requirements for Baby Conferences in connection with county fairs, and about the work of the Elks' Crippled Children Commission and the proposed clinics.

Assistance has been given the Scientific Service Committee in securing programs for County Medical meetings and in maintaining this service at a high standard.

The Committee offers its service to the public and to the county societies, but it does not wish in any way to interfere with their work or to dictate policies. It merely suggests. County societies are free to accept or reject as they may see fit.

The very excellent co-operation given by individual members of the Illinois State Medical Society has made the above report possible. The work of the Educational Committee would have been utterly impossible without this sincere spirit of co-operation and interest. A badge of honor should be conferred upon the hundreds of men who gave their time to fill speakings appointments before groups and over the radio, and to those who have always been most generous in giving helpful suggestions and advice. Because of this support, the Educational Committee has been able to carry on a unique program of outstanding value to the public and to organized medicine.

Respectfully submitted,

WILLIAM D. CHAPMAN,
JAMES H. HUTTON,
CHARLES J. WHALEN,
R. R. FERGUSON, Chairman.
JEAN McARTHUR, Secretary.

The President: We will now have the report of the Editor of the Journal.

REPORT OF THE EDITOR, ILLINOIS MEDICAL JOURNAL

The close of another fiscal year for the Illinois State Medical Society finds the organization and the *ILLINOIS MEDICAL JOURNAL* facing fewer problems for the magazine than economic problems for the profession.

Doctors in Illinois are to be congratulated that this year's income from the Journal is the greatest ever received. Through extraordinary effort on the part of everybody connected with the Journal this most satisfactory condition was achieved in the face of stock market panics and almost unprecedented financial depression throughout the United States.

But if the economic questions of the Journal have been well cared for in spite of world wide depression those of the profession at large would seem to have received fresh impetus for concern. It is not going afield to state that the question of medical economics has become a "monster of frightful mien." There is tendency on the part of commercial, statutory and political interests to shift public attention from their own

exploitation to a so-called reform of medical practice and medical methods as a counter irritant.

This is manifested by a trend towards the practical socializing of medicine through lay endowments and lay administration at a rate and to an extent undreamed of a decade ago. Argument is set forth by non-medical capital for extra endowments for the so-called lower classes, and for the extension of endowments to care for the sick and ailing among what is known as the middle class. It is to be noted with emphasis that such endowment of a living necessity is not urged for food, for shelter or for clothing, but only for medical care. Corporate practice of medicine is becoming more developed each year and its dangers far more apparent. A new but thriving menace is that of competition in the practice of medicine with their alumni by universities and colleges of medicine. Institutional full and part pay clinics, some for profit, are usurping to an unwarranted and unjustified degree the province of the practice of medicine by individuals and is against the best interests of medical stability.

Another thriving enemy to ethical medical practice and to the best interests of the public and the profession is the continuously attempted—and ever at least partially achieved—legislation restricting the usefulness of medical practice or hampering its scientific scope. A new oligarchy is about to be set up in Washington through the rejuvenation and the extension of the now defunct Sheppard-Towner legislation in the proposed Porter Narcotic Bills. The daily news columns bring to the attention of physicians everywhere the progress of these vicious and socialistic ideas, against which for over two decades the editor of this journal has fought consistently.

Considered at first a pessimistic visionary, yet the years and their experiences have so justified by actual occurrence the earlier statements of the editor of the Journal in this regard that even the doubting Thomases are beginning to admit the facts.

When there is one hundred per cent. co-operation on the part of the medical profession against lay dictation, bureaucratic control at Washington, socialistic and unscientific legislation, misguided lay endowment and philanthropy, corporate practice of medicine, emotional vilification of the profession by misguided members in it as well as by ignorant individuals of the general public, due consideration of trivial ailments of the general public by the medical profession, restoration of the rank and ranks of the family physician, a more balanced proportion of specialization in the profession, and an awakening of the professional conscience to the wrongs committed against the profession—then and only then will the future and progress of ethical medicine rest once again upon a sound basis.

Once again the editor wishes to express appreciation of the utmost sincerity of co-workers in every department of the Journal for the co-operation they have extended. Especially is this appreciation meant for those officers and members of the county societies who have managed to find time in the midst of many, aye multitudinous labors, to serve also as contributors to the

ILLINOIS MEDICAL JOURNAL, with those notes of the confraternity that have helped us to remember that though we may be the servants of humanity, yet we ourselves are humans still!

To yet another group of the profession is gratitude due. The ILLINOIS MEDICAL JOURNAL owes much of its distinction to those specialists, research workers and tried and tested physicians whose articles, illustrations and experiences make the contents of our magazine such as to lift the ILLINOIS MEDICAL JOURNAL to the highest rank of state periodicals. It is only just and fair to our contributors to remark that thanks to their generosity and their contributions no state journal in the United States surpasses the quality of material published in the ILLINOIS MEDICAL JOURNAL. This statement is an accepted and acknowledged fact. For so well is the ILLINOIS MEDICAL JOURNAL recognized as a medium of publicity and a forum for the published lecture that such an overflow of material comes from all over the country that much of it has to be turned down from lack of room. Much of this too in many instances has come from men of international and familiar repute.

Careful reading of the pages of the ILLINOIS MEDICAL JOURNAL affords an abridged extension course in post-graduate medicine. For this the editor takes no credit. His one hope and his one prayer as well as his everlasting crusades are for the protection of medicine from malign menaces inspired though they be more by ignorance than by malice. This crusade goes on unremittingly in the Journal. It is the practice of the editor even at the risk of being tedious to attack each evil endangering the profession at the moment of first appearance. These problems are treated at the outset before they have reached an acute stage.

A new year is before us. We realize its opportunities and necessities. Let us make the most of them all.

CHARLES J. WHALEN,
Editor, Illinois Medical Journal.

The President: I wish to appoint on the Resolutions Committee:

Dr. E. P. Sloan, Bloomington.

Dr. G. Henry Mundt, Chicago.

Dr. W. H. Maley, Galesburg.

The next order of business will be the presentation of resolutions.

Dr. E. P. Sloan: I wish to present the following resolution which was presented to the Secretary by Dr. Tuite before he died. This relates to a change in the By-Laws.

WHEREAS: The By-laws of the Illinois State Medical Society specify that the President-Elect shall be inducted into office at two P. M. Thursday, and

WHEREAS: The By-Laws of the Illinois State Medical Society specify that the President-Elect shall be inducted into office at two P. M. Thursday, and

WHEREAS: Our beloved past president, the late John E. Tuite, hoped to present this matter in person to the House of Delegates this year,

Therefore Be It Resolved: That Section 3 of Article IX of the By-laws be amended by striking out the words at 2:00 P. M. and shall substitute therefor the words at the close of the last meeting of the House of Delegates, making the section read as follows:

Sec. 3. The President-Elect shall assume the duties of President on the last day of the annual meeting at the close of the last meeting of the House of Delegates, and shall continue in office until his successor has been elected and installed.

Dr. C. J. Whalen: I wish to present the following resolution:

WHEREAS: For years the records show that Pennsylvania, New York and other progressive states have been able to prevent smallpox by the enforcement of a compulsory vaccination act, and

WHEREAS, vaccination against smallpox is recognized by military, naval and other agencies of all governments the world over as the only method of preventing and controlling smallpox, and

WHEREAS, the evidence is positive, proven and overwhelming that vaccination is a sane, safe and sure means of preventing smallpox, and

WHEREAS, Illinois in 1929 had over 4,000 cases of smallpox all of which could and would have been prevented under the enforcement of the compulsory vaccination act, and

WHEREAS, it is reported that Dr. Andy Hall, the Director of Public Health, intends to have introduced in the next Legislature a bill providing for the compulsory vaccination law for Illinois, now therefore

Be It Resolved, that the House of Delegates of the Illinois State Medical Society pledges a hearty support of the members of said Section to the Director of Public Health in this laudable effort, and we further urge upon the medical profession the great desirability of united support of the organized Medical Society for this measure.

Be It Further Resolved, that a copy of this resolution be sent by the Secretary to the Governor and each member of the Legislature.

Dr. C. J. Whalen, Chicago: The proper perspective on preservation of our medical annals suggests the creation of a permanent historian

for the State Medical Society. The happenings and professional events of importance will be recorded each year; details of these events will be fresh in the memory of the historian and can be accurately set down without loss of color; the report of the historian can be recorded annually in the archives and this report can also be presented at the annual meeting of the State Society for discussion and approval, just as is done with reports from other committees. At intervals of ten years or at other stated times, these reports can be taken out and put into volume form for convenience.

History is the record of today's details and as life is history in the making, so history is life that has been made.

Therefore Be It Resolved, that a department of archives of medical history be established; that a historian be appointed for the committee by the Illinois State Medical Society; that revision of the by-laws and constitution be made for the establishment of this office.

Dr. Maurice I. Kaplan, Chicago: I wish to present the following resolution:

WHEREAS, It has recently become the practice for electrical and instrument dealers and manufacturers to rent or sell physiotherapy and light apparatus to the lay public without the prescription or advice of physicians, and

WHEREAS, It is a well-known medical fact that improper usage of any of the physiotherapy and light apparatus may have deleterious or injurious effect and results upon the users of the same, and

WHEREAS, The use of physiotherapy and light apparatus by lay patients without the prescription and advice of physicians encourages and corresponds to self-drugging and self-treatment, and deleterious consequences to the health of those so doing, therefore be it

Resolved, by the House of Delegates of the Illinois State Medical Society, in regular session, that this Society for the reasons above set forth, deprecates the renting or sale of the aforementioned physiotherapy and light apparatus to laymen except when the same are prescribed and advised by physicians, and it is further

Resolved, That a copy of these resolutions be sent to the House of Delegates of the American Medical Association, and that the Delegates of this Society to the American Medical Association be and are hereby directed and instructed to

present and endeavor to secure the passage of similar resolutions to these at the meeting of the American Medical Association in Detroit in June, 1930. And it is further

Resolved, That the Editor of the ILLINOIS MEDICAL JOURNAL be requested to publish a copy of these resolutions with the proceedings of this meeting, and that a copy be sent, with a request for publication, to the *Journal of the American Medical Association*, *American Journal of Physiological Therapy*, Chicago, and to such other publications as are deemed advisable by the Secretary of this Society.

Dr. R. L. Green, Peoria: I wish to present the following resolution and then would ask the Chair to grant Dr. Ralph Hamill of Chicago the privilege of the floor for five minutes to discuss the resolution:

WHEREAS, The State of Illinois has in the Department of Public Welfare, a physical, medical, psychiatric and financial problem of great magnitude,

WHEREAS, The Illinois State Medical Society realizes the importance of the facts involved and the imperative need for more efficient measures of prevention and treatment,

Therefore Be It Resolved, That a committee of six be appointed by the President to study mental and other problems involved, with the view of assisting the Council in determining whether the Illinois State Medical Society can to advantage intervene in the matter.

Doctor Hamill: Having lived for about five years in public institutions and having been associated with two or three of these institutions, I am very much interested in the medical handling of patients in these institutions and feel that the medical profession has not done enough to see that some kind of medical care is given to the poor unfortunates locked up in the state institutions. I further feel that we as an organized medical profession should demand that some kind of adequate medical attention be given to these people, but I do not believe we will get it unless we make such a demand. It seems that this problem should be in the hands of the medical profession instead of in the hands of the Public Welfare Department. Of course, it is only with a good deal of insistence that we are going to get attention given us on this problem. Up to the present, as you men must all know, the state

institutions are merely places furnishing jobs for men who for some reason or other have some claim on political favors. Our insane, feeble-minded are in the hands of such appointees. Obviously, it is not what we would like as an ideal way of handling this problem. I do not know where the first step is going to come from. I am perfectly sure that some organization today is going to make it. At the present time there is no effort by the present administration to handle this problem at all adequately. I am making this statement advisedly. I think I know the state institutions pretty well. I am certain that there has been no adequate attention given to the medical problems in these places. These fellows who go to work in state institutions, what show have they? They have no place to live, a very small salary to start with and if they do a good piece of work there is no advancement. Secondly, there is nothing to stimulate or encourage a young man to go into psychiatry. At the present we are being told by the state administration that what we must do is to teach more psychiatry in the four medical schools in Chicago. We devote more hours to psychiatry in the four medical schools in Chicago than in any other institution in the country. Instead of their doing good work on the part of the state administration, they put it up to us as teachers that we must teach more men psychiatry to have more men for them to pick from. I do not believe that is the way to get this problem solved. If it is going to be solved, it must be an organized campaign by medical men of this state. It is pitiful enough for adults to be in state institutions and it is very much worse for the children. Of course, there is a tremendously growing interest in the whole business of psychiatry and the hospital handling of these people. I would like to see this Society take the step that would demand recognition of the conditions as they exist today.

Dr. E. H. Ochsner, Chicago: I wish to present the following resolutions:

1. WHEREAS, There is a widespread opinion that the theoretical training for nurses is being over-emphasized at the expense of practical training, thereby increasing the difficulty of rendering efficient nursing service to the general hospital patient.

Therefore Be It Resolved, That the House of

Delegates of the Illinois State Medical Society request the Illinois State Board of Education and Registration to so modify its requirements of nursing education as to enable the general hospital training school for nurses to devote more time to the practical training of nurses, thereby insuring more adequate nursing care for the general hospital patient who is financially unable to provide himself with special nursing care.

2. *Resolved*, That the Illinois State Medical Society urge the Governor and the Legislature to create a separate institution for the care and detention of feeble-minded persons with strong criminal tendencies in order that the law for the permanent segregation of certain classes of feeble-minded persons may be more effectively administrated.

Dr. Maurice I. Kaplan, Chicago; I wish to introduce the following resolution.

WHEREAS, It is common knowledge that there are numerous establishments for profit known as X-Ray Laboratories or similarly named, manned, directed and owned by persons other than physicians or dentists licensed to practice in the State of Illinois, and

WHEREAS, Patients are referred for diagnosis or treatment or both, to these so-called X-Ray Laboratories under the impression that a graduate and licensed physician or dentist will oversee the treatment or make the diagnosis, and

WHEREAS, The making of a diagnosis and administering a treatment for a specified fee is determined as the practice of medicine as specified by the Medical Practice Act, therefore be it

Resolved, by the House of Delegates of the Illinois State Medical Society in regular session that this Society for the reasons above set forth, depreciates the maintenance of X-Ray Laboratories except where they are under the direct supervision of a licensed physician or dentist who is licensed to practice medicine or dentistry, and

Be It Further Resolved, that the attention of the Board of Registration and Education be called to these gross violations of the Medical Act, and it is further

Resolved, That a copy of these resolutions be sent to the House of Delegates of the American Medical Association, and that the Delegates of this Society to the American Medical Association be and are hereby directed and instructed

to present and endeavor to secure the passage of similar resolutions to these at the meeting of the American Medical Association, in Detroit in June, 1930. And it is further

Resolved, That the Editor of the ILLINOIS MEDICAL JOURNAL be requested to publish this resolution with the proceedings of this meeting and that a copy be sent with a request for publication to the Journal of the American Medical Association and such other publications as are deemed advisable by the Secretary of this Society.

The President: If there are any further resolutions to be presented they will be handed to the Resolutions Committee between now and Thursday morning.

On motion duly made and seconded the House adjourned at 4:30 P. M. to meet again on Thursday morning at 8:30 A. M.

SECOND SESSION

Thursday morning—May 22, 1930

The Thursday morning session was called to order at 8:45 A. M. by the President, Dr. F. O. Fredrickson.

The President: The first order of business will be the report of the Credentials Committee.

Dr. John S. Nagel, Chicago: The Credentials Committee has certified fifty-six down state, fifty-six Chicago Medical and twelve councilors, a total of 124.

(It was moved that the report be accepted. Motion seconded and carried.)

The President: The next order of business is the roll call by the Secretary.

The Secretary called the roll and reported that a quorum was present, forty-one down state, twenty-nine Chicago Medical and eleven Councilors, a total of eighty-one.

The President: The next order of business is the election of officers. Nominations for President-Elect are open.

Dr. Charles B. Reed, Chicago: It is with great pleasure that I present for the nomination of the President-Elect a man who is well deserving of all the honor that can be given him. It is a personal privilege to present the name of Dr. R. R. Ferguson of Chicago. (Motion seconded by Dr. R. L. Green, Peoria.)

Dr. R. L. Green, Peoria: I move that the nominations be closed and the Secretary be instructed to cast the affirmative ballot for Dr.

Ferguson as President-elect. (Motion was seconded and carried and the President declared Dr. Ferguson elected.)

The President: I will ask Dr. Reed to escort Dr. Ferguson to the Chair.

Dr. R. R. Ferguson: It is indeed a great surprise. If I can live up to the work of our immediate past-president, I will be satisfied.

The President: Nominations for first Vice-President are in order.

Dr. W. R. Fletcher, Joliet: I wish to place in nomination a man who is responsible for your entertainment during this convention and for everything that has taken place in Joliet, Dr. Bert G. Wilcox. (Motion seconded.)

Dr. W. H. Maley, Galesburg: I move the nominations be closed and the Secretary be instructed to cast the affirmative ballot for Dr. Wilcox as first Vice-President. (Motion seconded and carried and the President declared Dr. Wilcox elected.)

Dr. Bert G. Wilcox, Joliet: I appreciate the honor very much. You know while this thing was going on I spent most of the time in the hospital and just got out yesterday. I understand everything went along very nicely and I hope you are all very happy.

The President: Nominations for second Vice-President are now in order.

Dr. C. J. Whalen, Chicago: I wish to place in nomination the name of Dr. Otto Huber of Chicago. (Motion seconded.)

Dr. S. S. Epstein, Chicago: I move that the nominations be closed and the Secretary be instructed to cast the affirmative ballot for Dr. Huber, as second Vice-President. (Motion seconded and carried and the President declared Dr. Huber elected.)

The President: Nominations are now in order for Secretary.

Dr. W. H. Maley, Galesburg: I wish to place in nomination for Secretary our present Secretary, Dr. Harold M. Camp, Monmouth. (Motion seconded.)

Dr. J. S. Nagel, Chicago: I move the nominations be closed and the President cast the affirmative ballot for Dr. Camp for Secretary. (Motion seconded and carried and the President declared Dr. Camp elected.)

The President: Nominations for Treasurer are now in order.

Dr. W. E. Kittler, Rochelle: I wish to nominate Dr. A. J. Markley to succeed himself. (Motion seconded.)

Dr. Mather Pfeifferberger, Alton: I move the nominations be closed and the Secretary be instructed to cast the affirmative ballot for Dr. Markley as Treasurer. (Motion carried and the President declared Dr. Markley elected.)

The President: Councilors from the Third, Sixth, Ninth and Tenth Districts are to be elected.

Dr. Thomas Meaney, Chicago: I wish to nominate Dr. Thomas P. Foley, Chicago, for councilor of the Third District. (Motion seconded by Dr. Epstein.)

Dr. T. B. Knox, Quincy: I wish to nominate Dr. Charles Center for Councilor of the Sixth District to succeed himself. (Motion seconded by Dr. Pfeifferberger.)

Dr. Andy Hall, Mount Vernon: I wish to put in nomination Dr. J. W. Hamilton of Mount Vernon to succeed him self as Councilor for the Ninth District. (Motion seconded by Dr. W. H. Maley.)

Dr. R. L. Green, Peoria: I wish to nominate Dr. J. S. Templeton as councilor of the Tenth District to succeed himself. (Motion seconded by Dr. Coleman.)

(There were no further nominations and the Secretary cast the affirmative ballot for the Councilors above named and the President declared them elected.)

The President: The next order of business will be the election of Standing Committees.

(Nominations were presented in each case, and the Secretary instructed to cast the affirmative ballot and the President declared them elected.)

The following Committees were elected:

Public Policy: Drs. Frederick H. Mueller, Chicago; H. J. Way, Chicago; George Michell, Peoria.

Medical Legislation: Drs. John R. Neal, Springfield; C. E. Humiston, Chicago; Edward Bowe, Jacksonville.

Medicolegal: Drs. J. R. Ballinger, Chicago; George Weber, Peoria; R. O. Hawthorne, Monticello; Walter Wilhelmi, East St. Louis; A. H. Geiger, Chicago and Oscar Hawkinson, Chicago.

Relations to Public Health Administration: Drs. E. W. Mosley, Chicago; Ralph Hinton,

Elgin; E. D. Levinson, Chicago; F. F. Maple, Chicago; T. B. Knox, Quincy.

Medical Education and Hospitals: Drs. John Pflock, Chicago; W. M. Hartman, Macomb, and W. R. Marshall, Clinton.

The President: The next order of business will be the election of Delegates and Alternate Delegates to the American Medical Association.

(Each delegate was nominated in turn and the Secretary instructed to cast the affirmative ballot for the five. The President then declared them elected.)

The following were elected:

C. J. Whalen.....	Chicago
E. P. Sloan.....	Bloomington
T. O. Freeman.....	Mattoon
W. A. Pusey.....	Chicago
G. Henry Mundt.....	Chicago

(Each Alternate Delegate was nominated in turn and Secretary instructed to cast an affirmative ballot for the five. The President then declared them elected.) The following were elected:

M. I. Kaplan.....	Chicago
C. S. Nelson.....	Springfield
G. C. Otrich.....	Belleville
J. J. Pflock.....	Chicago
C. B. Reed.....	Chicago

The President: The next order of business is to fix the per capita tax for the coming year.

Dr. W. H. Maley, Galesburg: I move the per capita tax remain the same, \$8.00 per year. (Motion seconded and carried.)

The President: The next order of business is the selection of a meeting place for 1931.

Dr. C. S. Skaggs of St. Louis, Dr. J. S. Templeton, Pinckneyville; Dr. J. W. Hamilton, Mount Vernon each presented an invitation to the Society to hold the 1931 meeting in East St. Louis.)

The Secretary: A week ago last Friday, following an urgent invitation from St. Clair County Society, I visited East St. Louis and they showed me the prospective places of meeting. East St. Louis has excellent facilities in the way of hotels, meeting places, rooms for the Secretaries' conference and President's dinner and everything essential pertaining to the meeting. I have received twelve or fifteen telegrams from the Mayor of East St. Louis, the President of the Chamber of Commerce, the Commissioner of

Police, the Sister Superior of the largest hospital in southern Illinois, and others. I have also received invitations from the Rockford Chamber of Commerce, the Peoria Chamber of Commerce, the Stevens Hotel, Chicago.

Dr. C. E. Humiston, Chicago: I move that the Secretary cast an affirmative ballot in favor of East St. Louis as a meeting place for next year. (Motion seconded.)

Dr. E. P. Sloan, Bloomington: This vote is to be a vote of preference and the final arrangements left to the Council.

Dr. C. E. Humiston: I accept the amendment.

The motion as amended was carried.

The President: The next order of business will be presentations of the resolutions.

1. Dr. John E. Tuite (introduced by W. H. Maley):

WHEREAS, It has been the will of the Divine Ruler of the Universe to take from his earthly toil, our immediate past president, John E. Tuite, and

WHEREAS, Although we respect the Will of our Creator, we bow in reverence to this great loss, and

WHEREAS, We wish to honor the memory of him who has had for many years uppermost in his thoughts, the best interests of organized medicine, and those of the Illinois State Medical Society in general, therefore

Be It Resolved, That the House of Delegates do, in session this twenty-second day of May, 1930, spread on the minutes of the transactions of this House of Delegates, this resolution, our evidence of respect to the memory of the deceased friend, John E. Tuite, a loss that earth cannot restore, and be it

Further Resolved, That a copy of this resolution be published in the ILLINOIS MEDICAL JOURNAL, and a copy be sent to the family of the deceased, as a token of our esteem and an assurance of our sympathy.

Dr. W. H. Maley: I move the adoption of this resolution. (Motion seconded and carried unanimously.)

2. Dr. D. B. Penniman (motion introduced by Dr. W. H. Maley):

WHEREAS, We have recently lost through death, a former Councilor of the Illinois State Medical Society, a man who has worked untir-

ingly for many years for the best interests of the Society and the medical profession, and

WHEREAS, We realize that in the loss of our highly esteemed and beloved friend, the late D. B. Penniman, the Society and the Council have suffered a loss that cannot be replaced,

Therefore Be It Resolved, That the House of Delegates of the Illinois State Medical Society in regular session this twenty-second day of May, 1930, do cause to be spread on the transactions of this meeting, this tribute in respect to the memory of our late friend and co-worker, and

Be It Further Resolved, That a copy of this resolution be published in the ILLINOIS MEDICAL JOURNAL, and a copy be sent to the family of the late David B. Penniman, as a memorial tribute to his memory, and our assurance of sympathy for a loss which earth cannot restore.

Dr. W. H. Maley: I move the adoption of the resolution. (Motion seconded by Dr. Weld and carried unanimously.)

3. *Amendment to By-Laws* (introduced by Dr. E. P. Sloan):

WHEREAS, the By-laws of the Illinois State Medical Society specify that the President-Elect shall be inducted into office at 2:00 P. M. Thursday, and

WHEREAS, It is difficult to get members together Thursday afternoon for this important function, and

WHEREAS, Our beloved past president, the late John E. Tuite, hoped to present this matter in person to the House of Delegates this year.

Therefore Be It Resolved, That Section 3 of Article IX of the By-laws be amended by striking out the words at 2:00 P. M. and shall substitute therefore the words at the close of the last meeting of the House of Delegates, making the section read as follows:

Section 3. The President-Elect shall assume the duties of president on the last day of the annual meeting at the close of the last meeting of the House of Delegates, and shall continue in office until his successor has been elected and installed.

Dr. Sloan: I move the adoption of the resolution. (Motion seconded and carried.)

The President: In view of the fact that this resolution has been passed, the induction of the President-Elect will take place just before the adjournment of the House of Delegates.

4. *Death certificates without the cause of death being stated* (Introduced by Dr. C. E. Humiston)

WHEREAS, Burial permits are being issued in large numbers, particularly in the County of Cook, upon death certificates that show the cause of death to be *unknown*, and

WHEREAS, This potential hiding of foul play or even murder can be of possible advantage to but one class, namely, the enemies of society, and

WHEREAS, It is commonly believed that it is the duty of the coroner to investigate all cases wherein death occurs in the absence of medical attention, and

WHEREAS, Failure to make such investigation is explained by an alleged defect of existing laws, therefore be it

Resolved, That the Legislative Committee of the State Medical Society be and hereby is instructed to endeavor to secure adequate corrective legislation at the hands of the General Assembly, to the end that the citizens of this commonwealth may enjoy that protection to their lives to which the people of a civilized state are entitled.

(Motion was seconded.)

Dr. C. E. Humiston: This, of course, is not strictly a medical matter. It is not something which only doctors are interested in. We are interested in this matter because we are citizens of the State of Illinois. It is a matter for the consideration of every normal law abiding citizen. The fact that a person may be found dead and that no competent medical man or licensed practitioner at any time need be consulted in order to obtain a death certificate is something we ought to think about and endeavor to have corrected. The Bar Association should be notified and the newspapers should be asked to give publicity to this resolution. I wish I had words to stir you up and make you fight for the honor of the state.

Dr. S. S. Epstein: What Dr. Humiston said is news to me. I am rather astonished. I happen to have been Coroner's Physician of Cook County for many years and in my experience the Registrar will not issue a death certificate unless there is a definite cause of death. As a matter of fact, he will turn down a death certificate without the cause being stated.

Dr. Humiston: This is a tribute to my good

friend Dr. Epstein. Will Dr. Hall help us out in proving that what I said is true.

Dr. Andy Hall, Mount Vernon: I might say that more death certificates came down from Chicago without the causes known during the past year than in any other two or three years put together. To illustrate, here is a child who dies with no medical attention whatever; instead of the coroner investigating into this they ship it into the Registrar's office and it goes back and forth and finally the Registrar writes causes unknown. The Registrar has not power to call in witnesses. That should be done by the Coroner.

Dr. Humiston: This is not intended as a slam at any particular official or coroner. It is merely citing a condition.

Dr. Andy Hall: As far as I know every Coroner in the State of Illinois is trying to find out the cause of death in Illinois, except in Cook County.

(Motion as presented by Dr. Humiston was carried.)

Dr. R. E. Hunt, Belvidere: I would like to ask if Dr. Hall could tell the percentage of counties who have doctors as coroners.

Dr. Hall: I cannot.

Dr. Humiston: The Registrars and Coroners are different officers. The Registrars are 1,500 or 2,000 in number. The great majority of those men are farmers and business men.

5. *Committee to study mental and other problems of state institutions.* (Introduced by Dr. R. L. Green, Peoria.) (See Page 31.)

Dr. W. H. Maley: I move the adoption of this resolution. (Motion seconded and carried.)

6. *Compulsory vaccination law for Illinois.* (Introduced by Dr. Andy Hall, Mount Vernon.) (See Page 30.)

Dr. E. P. Sloan: I move the adoption of this resolution. (Motion seconded by Dr. Van Derslice and carried by a rising vote.)

7. *Violation of Medical Practice Act by X-Ray Laboratories.* (Introduced by Dr. Maurice I. Kaplan, Chicago.) (See Page 31.)

Dr. S. S. Epstein: I move the adoption of this resolution. (Motion seconded and carried.)

8. *Use of physiotherapy and light apparatus by lay patients without prescription or advice of physician.* (Introduced by Dr. Maurice I. Kaplan, Chicago.)

Dr. S. S. Epstein: I move the adoption of this resolution.

Dr. Van Derslice: I object to the words "instructing the Editor." I believe that this editorial position is such that we have no right to instruct the Editor. I believe that the Editor of the ILLINOIS MEDICAL JOURNAL has a right to the courtesy that we request him to publish this resolution but not instruct him. I move that the wording in these two resolutions be changed to "request the Editor." (Motion seconded and carried.)

9. *Modification of requirements for nursing education.* (Introduced by Dr. E. H. Ochsner, Chicago.) (See Page 32.)

Dr. Humiston: I move the adoption of this resolution. (Motion seconded and carried.)

10. *Appointment of a historian for the Illinois State Medical Society.* (Introduced by Dr. G. Henry Mundt, Chicago.)

WHEREAS, There is a growing appreciation of the importance of accurate medical historical records,

Therefore Be It Resolved, That a committee on Medical History be appointed by the Council with its chairman known as the historian, with instructions to gather and preserve accurate records of medical events in the State of Illinois and present an annual report to the House of Delegates of the Illinois Medical Society to the end that at intervals of ten years or at other stated times these reports may be published in volume form. Also, that the by-laws and constitution be revised to provide for these appointments.

Dr. Van Derslice: This resolution will probably necessitate the spending of money and I move that it be referred to the Council of the State Society.

Dr. E. P. Sloan: This only authorized the appointment of a Committee.

Dr. Van Derslice: I rise to a point of procedure. If this matter has been in the hands of the Council, the Council should send it back to this House. It is the duty of the Council to send this to the House and not the House to the Council.

Dr. Mundt: The Committee was not informed if this came from the Council. We had no knowledge that the Council had had this resolution before. As the Committee understood,

it was simply a resolution asking for the appointment of a Committee with the chairman to be known as the historian. As far as we knew, it was not a matter involving expenditure of money.

Dr. Vandeslice: I renew my motion with the amendment that we endorse the resolution and send it back to the Council. (Motion seconded by Dr. Sloan and carried.)

11. *Creation of a separate institution for the care and detention of feeble-minded persons with strong criminal tendencies.* (Introduced by Dr. E. H. Ochsner, Chicago.) (See Page 32.)

Dr. Sloan: I move the adoption of this resolution. (Motion seconded by Dr. Maley and carried.)

12. *Standardization of hospitals.* (Introduced by

WHEREAS, The American Medical Association through its Council on Medical Education and Hospitals has been doing excellent work in the standardization of hospitals, and

WHEREAS, The Illinois State Medical Society realizes the importance of this work, and thoroughly believes that the one organization properly qualified to standardize hospitals is the one composed of all branches and specialties in Medicine, therefore

Be It Resolved, That the Illinois State Medical Society in session this twenty-second day of May, 1930, do herewith approve and commend this work of the American Medical Association and also respectfully urge it to continue its efforts along this line, as it is generally recognized as the one organization best qualified to standardize the hospitals of the country, and be it

Further Resolved, That copies of this resolution be sent to the American Medical Association and its Council on Medical Education and Hospitals—and that the delegates from the Illinois State Medical Society to the Annual Meeting of the House of Delegates of the American Medical Association to assemble in Detroit in June, 1930, be requested to present this resolution before that body.

Dr. Maley: I move the adoption of this resolution. (Motion seconded and carried.)

13. *Resolution of appreciation to City of Joliet.* (Introduced by Dr. R. L. Green.)

WHEREAS, The City of Joliet, through its

Medical Society, civic, professional, and business organizations, etc., have been unusually courteous to the members of this Society during the present annual meeting, and

WHEREAS, The local committee on arrangements have shown an unusual desire to do everything within their power to make this meeting one to be long remembered,

Therefore Be It Resolved, That a special vote of thanks be given to the Committee on Arrangements, to Grant Houston, the President, B. G. Wilcox, Chairman of the Committee, for his untiring efforts for many months, to the Hotel managements, the Joliet Chamber of Commerce, and its capable and cooperative Secretary, Jack Meade, and his courteous assistants, the Police Department, city officials and the Mayor for his assurance of hospitality, the residents of the city who so willingly opened their homes to visitors who were unable to procure hotel rooms, the Ladies' Committee for their work, and to all residents of the City of Joliet who assisted in so many ways to make the 1930 Annual Meeting a huge success, including the management of the various meeting places and pastors of churches wherein meetings were held, the High School Band, and the Warden of the Penitentiary, and

Be It Further Resolved, That the Secretary be instructed to deliver to those mentioned in this resolution, this special vote of thanks, with an assurance that the Illinois State Medical Society has had in their city, one of the best meetings yet held.

Dr. Kittler: I move the adoption of this resolution by a rising vote. (Motion seconded and carried.)

The President: This completes the business of the House of Delegates. We shall now install Dr. Chapman as the President of the Illinois State Medical Society. I will ask that Dr. Chapman be escorted to the Chair.

Dr. Chapman, it is indeed a great pleasure to receive you on this platform under these circumstances and to induct you into office with the great honor, which you deserve, in the presence of the House of Delegates. The work which you have done in the past years in behalf of the medical profession is well known. It, therefore, gives me great pleasure to turn over to you the official gavel of the Illinois State Medical Society, the official emblem of authority that I

charge you to wield in behalf of the medical profession and also in behalf of public welfare.

Members of the House of Delegates of the Illinois State Medical Society, Your President.

Dr. W. D. Chapman: Dr. Frederickson, and gentlemen of the House of Delegates, I accept the charge given me by Dr. Frederickson with a keener degree of pleasure than you would think. I have gotten much pleasure and joy out of the associations of the Illinois State Medical Society. If during the ensuing year, it should fall within my power to be of use to the Society, the privilege will be all mine and the efforts, I assure you, will be extended as seem indicated at any moment. During my younger days if anybody had hinted to me that I should ever have to go to Joliet for serving the Illinois State Medical Society I would have been filled with wonder and disbelief, but for the privilege of continuing that service I am even willing to go to East St. Louis. I do thank the gentlemen present and the members of the Society for all the many courtesies they have shown me and I assure you of my deep appreciation.

Dr. Chapman: If there is no further business, I can entertain a motion for adjournment.

On motion duly made and seconded, the House of Delegates adjourned *sine die* at 10:05 A. M.

FIND NEW ANIMALS THAT MAY TRANSMIT TULAREMIA

Tularemia, disease of rabbits, rodents and men, may also affect cats, muskrats, pigeons, ring-necked pheasants, grouse and quail, it appears from studies reported to the American Public Health Association by Dr. R. G. Green and E. M. Wade of the University of Minnesota and the State Department of Health. This new disease which has caused much concern in public health circles, is acquired by men who handle infected animals. The fact that many more kinds of animals may have the disease greatly increases the danger to human beings by increasing the possible sources of infection.—Science Service.

Rastus: "Ah done hear yo' stayed in de haunted house last night. What happened?"

Sambo: "About two o'clock Ah woke up an' a ghost came frew de side wall es' if de wall wasn't dere."

Rastus: "An' what did yo' do?"

Sambo: "Boy, Ah went frew de other side wall de same way."

Original Articles

REAL PROBLEMS OF MODERN MEDICINE*

MARTIN E. REHFUSS, M. D.

Associate Professor of Medicine, Jefferson Medical College

PHILADELPHIA, PA.

Emerson says the microscope cannot find the animalcule which is less perfect for being little. Man, the most perfect of all the Creator's works, is at the same time the most imperfect. He represents the aspiration of the world of living things, and directed toward him are the destructive as well as the constructive forces of the natural world. It is to the care of this priceless creature, with its bundle of heredities, its unknown aspirations, the crystallization of nature's marvellous melting pot, that the science and the art of medicine are directed. Let us consider, therefore, not merely the practice of medicine, but let us consider the priceless material with which we work, different, in a sense, from anything else in all this world.

The ancients knew that no progress was possible without the fundamentals. We couldn't know about a thing unless we knew what that thing was. Progress on the circulation of the blood dates from the discovery of the circulation. When the centre of the soul was conceived to be in the stomach and gastric digestion was considered to be fermentation or coction, no progress was made. One man thought better and saw better than another, but it took Spallanzani to find out what was actually happening and the truth was stranger than fiction. Before Pasteur, what remarkable theories of fermentation. How subtle and seductive the idea of the spontaneous generation of life; how mysterious the black plague before the discovery of the bacillus pestis; how simple and almost mathematically correct are cause and effect when we have the real organism responsible for the infection. When Reed discovered the link in the chain of evidence regarding yellow fever, it was all so simple, and the solution was equally direct. Medical men became engineers and engineers usually accomplish something. Today, wherever that scourge raises its head on this terrestrial planet, medical science is ready to do it again, build the same, and de-

stroy that scourge, as well as many of the other anti-human pests which threaten the peace of the race. I wonder whether Laveran, in French Morocco, realized what he found when he first gazed at the malarial parasite or how much research was necessary to know all about it. But far away from Morocco, and long before, a Jesuit priest found the solution of the story in the quinine bark and the decades since have added little else. Medical science, replete with findings, discoveries, every one of them adding to the grandeur of the great ever increasing fund of knowledge, is dedicated to the more perfect understanding of the genus "homo." It acknowledges its debt to no one profession, for it has wandered far afield and plucked where it could harvest. The outstanding discoveries of medicine were often from without the profession, i. e. the Jesuit priest, Pasteur with his bacteriology, the milk maid and vaccinia, Madame Curie with her radium, Roentgen with the x-ray, Coolidge with his tube, and the myriad of discoveries from biologists, chemists, physicists, etc. I hold it that man being a universal being, and coming in contact with universal things, that everything which comes in contact with man is of interest to the medical profession. The physician should be as interested in man's environment as he is in the working of his engine, and that everything even remotely connected with man's activity is of interest to the physician. We need the creative type, the artist, the investigator, the architect and builder, the chemist and the physicist—we need all sorts of men, constructive as well as critical, to take this thing called medicine—to crystallize it, to resublime it, and to separate the wheat from the chaff. We need to gaze fearlessly on the past and to look with clear eyes into the future. There is too much of a tendency to take things for granted, to assume that the status of any given problem in medicine is settled, when there is scarcely a question in the entire realm of medicine science which is completely and satisfactorily settled.

Diagnosis, as we see it today, is almost always a delayed procedure. Carcinoma of the stomach has a latent period of six months, at least. No one can palpate, much less surmise, the presence of most forms of internal malignancy in their incipency. The average history of duodenal ulcer, as we see it, is seven years; of gastric ulcer perhaps less; of cholecystitis, in its chronic form,

*Oration in Medicine, Illinois State Medical Society, May, 1930.

perhaps four years or more, and myocarditis—who can tell how long? Years of incipient pathology, but developed pathology nevertheless. We see chronic disease most of the time as essentially chronic. Disease is rarely isolated, almost always there is a chain of events. Most endocrine diseases are polyglandular. Digestive diseases are usually multiple. Renal and cardiac disease rarely occur alone. Our hope is always to arrest the end result, to break up the vicious cycle somewhere, but unless we get the head, as in the taenia infestation, the disease is not cured.

Many diseases indicate chronic infection, and until we find the systemic solution against chronic infection we do not kill it. We can pull teeth, remove tonsils, extract gall bladders and surgically separate ourselves from part of the pathology, but the remainder after years is still there. Only through the circulation or through some specific process of immunity does it seem likely that we will arrest infection—the great problem of the twentieth century.

Most of us feel that we will control or cure cancer sooner or later. Our great problem, the problem of the future, is the eternal struggle with bacteria. Bacteria are only too often the seat of vascular disease, cardio-renal disease, digestive disease, and even the neurologists are falling in line with the thought that perhaps many of the nervous diseases find their explanation in low grade infections.

We realize that human beings breed true. You can not make a silk purse out of a sow's ear or breed a percheron from the Derby winner. You can not breed good humanity from poor material, but it is altogether likely that you can outbreed some diseases, and even more, that you can breed out the predisposition to certain diseases. Only the knowledge of this fact spread among the rank and file of the world will accomplish the millennium, and today the millennium seems a long ways off. Nature is always levelling, but nature usually breeds true. The Mendelian law is probably as true of human beings as of the peas which the Austrian monk first studied. Nature is inexorable, you cannot commit a crime without the penalty. Wealth and social position does not stop for a moment the inexorable trend of nature's forces. You can fool yourself but not the Creator. The physician does not create laws, he studies them, interprets them and uses them,

and only as he does these things correctly does he make progress.

When the world realizes the power of breeding, when it distinguishes between the garment and the stuff beneath, then perhaps the penetrating truths which shall be revealed will so alter the complexion of this world that man will truly be lifted up.

No problem today equals that of the chronic invalid. We have had the most remarkable progress in the handling of acute disease; in particular those diseases which invade the human host. All over the world today, progress is being made slowly and insidiously, but always forward, punctuated here and there with some scintillating discovery, such as that of insulin, which lights the way and dispels gloom. As Park and his coworkers point out, original discoveries are still adding to our knowledge of germ diseases, and apart from the conquest of many of the infectious diseases by special methods the way has been cleared to an even more thorough study of some of those diseases which are still obscure. This observer maintains that the outlook is favorable for obtaining eventually either through serums, attenuated cultures, or through toxic substances produced by the micro-organisms themselves, means of immunizing if not actually curing an increasing number of specific infections. Today the progress in this line alone is almost too great for any of us to master let alone the innumerable immunological reactions adding to our knowledge of the specificity of microbes in disease. The results obtained during the world war constitute a striking demonstration of how much can be accomplished even during adverse conditions in preventing diseases which earlier were scourges of the human race. For instance typhoid, paratyphoid, smallpox and cholera were made practically nil by preventive inoculation; tetanus was controlled by anti-serum inoculation; gas gangrene was lessened by special disinfection and anti-serums; plague was avoided by rat extermination; typhus and trench fever were lessened by delousing, and malaria was controlled by mechanical measures, drainage and quinine. Since the war the extensive work on practical immunization against diphtheria has had wide adoption, while the discoveries on the etiology of scarlet fever in 1923 and 1924 bring us up to the present time.

Let us for a moment review this monumental

thing in medicine called progress,—just as stimulating, as wonderful and as full of promise as that of any other science in the history of the world. How marvelous is that cumulative knowledge going down through the centuries and at our disposal for the sufferer from disease. The pages of the history of medicine are bejewelled with discoveries, some of which for sheer ingenuity, persistent application and insistent effort, equal those of any other effort of the human mind. It is true that in 1675, the Dutch lens maker peered, with his crude lens, through rain water and even his own saliva, but it was almost a hundred years later that Ehrenberg first applied the name bacteria to rod-like organisms. The cell as a unit of structure dates back to Schleiden in 1838, and Henle (1809-1885) described the relation of micro-organisms to infectious disease. Who can forget the observations of Spallanzani, who in 1769 demonstrated that boiling sterilized liquids,—this same Spallanzani who studied his own gastric digestion. How marvelous are the observations of Pasteur from 1860 onward; the brilliant results of Lister from 1863 to 1870 on the antiseptic treatment of wounds; the use of aniline dyes by Weigert and Ehrlich in 1877; the fundamental researches of Koch in 1881; Pasteur's remarkable studies on rabies in 1882, and a little later the investigations of Loeffler and Roux on diphtheria and Kitasato on tetanus. It was my privilege in 1912 to be a member of the class of Pasteur Institute in Paris, and what a remarkable faculty it was. Metchnikoff was propounding his theories of intestinal bacteriology and the role of the phagocytes, Roux was the director and one of Pasteur's original assistants, and so was Nicolle. I can recall Laveran with his white beard, and I can imagine with what strange delight he must have first gazed on the malarial parasite. There were many in that distinguished group—Haffkine, the hero of the Manchurian plague; Besredka, of sensitized vaccine fame; Widal, of the Widal reaction; Chantemesse, and how many more with only the truth for their mistress, striving in every way to throw light on disease. No one can do justice to the enthusiasm or the "esprit de corps" which actuated that little group, and made them keep the faith.

Let all of us who feel just a little tired and sometimes disappointed glance over the pages of modern medicine and realize just how proud we

should be of the remarkable progress which medicine has made. The other evening I went over the data regarding the infections which we are compelled to combat. Listen for a moment to just a few facts. Of 46 infections which affect the genus homo only dengue, measles, glandular fever, psittacosis, rubella, mumps, pertussis, smallpox and chickenpox are without demonstrable specific causes, and there is considerable evidence that the last five are due to some form of filtrable virus. Take the marvellous prophylactic results against smallpox alone, which is almost an obsolete disease, and accept if you wish the Bordet Gengou organism as the cause of pertussis. Looking over the list we know probably the etiology of 41 of this series, of nine-tenths of the infectious diseases. As to common colds and influenza, there may be no unanimity of opinion as to which organism is actually active. In 25, or nearly one-half, we have some definite prophylactic measures; in 6 we have specific immune material; in 16 we have more or less specific but nevertheless questionable immune therapy; in 7 we have almost specific drug or chemotherapy, notably in malaria and in the spirilloses. In 33 the mortality has been definitely reduced, and in some the disease has been definitely reduced, and in some the disease has almost disappeared, while 6 have practically no mortality. What a record! Consider for a moment just a few of these facts. The bacillus diphtheria as the cause of diphtheria; the modern use of the toxin-antitoxin as a prophylactic; the Schick test, and the marvellous effect of the serum. B. Tetani as the cause of tetanus and the reduction of the former mortality of 80 to 100% to 25 to 30%; the meningococcus or the diplococcus intracellularis as the cause of the epidemic form of cerebro-spinal meningitis, and the reduction of the mortality of this dread disease to as low as 15% if the serum is used early. Gonococcus as the cause of gonorrhea and its ready demonstration; B. Typhosus as the cause of typhoid fever together with its demonstration in the blood, in the stools and its agglutinative phenomena, and then consider the efficiency of prophylaxis in this disease. Ponder for a moment on the fact that in 1917 and 1918 the entire United States army showed only 1058 cases with 158 deaths, and only a short time before during the Spanish American war an army of 107,973 revealed 20,738 cases of typhoid

fever. The same is true of Paratyphoid with its specifically demonstrated paratyphoid A. and B. The troops on the Mexican border showed much of this disease but with the American expeditionary forces the mortality was low—only 1.5% and the number of cases small. Need I speak of the bacteriology of bacillary dysentery and of the immune phenomena, the use of serums and modern handling of the disease, and Asiatic cholera with its vibro cholerae which we handled at Pasteur Institute and the use of protective inoculation which is an established fact, even though its immunity is rather transitory. The bacillus pestis of plague, discovered simultaneously by Kitasato and Yersin in 1894, is now susceptible to prophylactic immunization of the Haffkine type, even though it only lasts six months, notwithstanding it is claimed that between 1896 and 1917 the appalling number of 10,000,000 people died in India of the plague and that it is endemic in some parts of the United States. The bacillus Anthracis as the cause of anthrax is an established fact and there is a more or less specific serum, The B. Mallei of glanders, and its diagnosis by sero diagnostic tests such as the complement fixation and agglutinative reaction and the so-called mallein reactions. We also have the demonstration of the B. Lepae by Hansen in 1873, and recent investigations regarding the chemotherapeutic properties of the ethyl esters of Chaulmoogra oil have changed the prognosis of this grave disease. Is it necessary to point to the demonstration of the tubercle bacillus as the cause of tuberculosis, or to discuss the array of scientific evidence which is still driving on in control of the white plague? Let us mention for a moment the demonstration of the Rickettsia group in typhus fever, Rocky mountain fever, trench fever, and if we have no specific for these diseases, we know the significance of the body louse in typhus, the tick in spotted fever, and the value of delousing in trench fever. We may not know the cause of dengue but we know it is mosquito borne. We believe that the leptospira icteroides causes yellow fever, and we know that it is borne by the Stegomyia mosquito, that there is a polyvalent anti-serum and that the record so exclusively American is by Reed, Carroll and others of the United States Army commission. Its elimination from Cuba and the Canal zone by the Army

commission is one of the proudest achievements of this notable body. How many more is it possible to mention. The demonstration of B. Tularensis in tularemia erroneously diagnosed for a long time as influenza; septic infection; typhoid fever; tuberculosis; and undulant fever with its agglutinative phenomena, and the fact that it may agglutinate Brucella abortus and Brucella melitensis, the causes respectively of malta and undulant fever. The demonstration of the Leishman bodies in Kala Azar with antimony as their specific; the demonstration of the spirochaeta icteroides hemorrhagica as the cause of infectious jaundice and the vaccine prepared from the killed culture; the treponema pallida of syphilis; the treponema pertense of yaws and the specific effect of arsphenamin on both of these diseases as well as on the spirocheta of relapsing fever. What a wonderful chapter of achievement and one which is in a sense appalling, and yet out of this list of diseases which affect man we have two or three groups which still resist the efforts of the scientists and concerning which we are in urgent need of help. Common colds, influenza, pneumonia on the one hand, and, on the other, measles, German measles and mumps. It may be possible to save our consciences with the statement that the latter are due to the fultrable viruses on the one hand, while a small but well recognized group of streptococci, pneumococci and B. influenza on the other are responsible for the cause of the trouble. The fact remains that this group perhaps more than any other still resists the efforts of the clinician and research worker. I could cover the entire field of medicine,—the protozoan diseases, and the parasitic infestations. With amebic dysentery and hookworm our information as well as our progress has been amazing.

This may be a long introduction to my problem, but it is one which is convincing to say the least. If our control of infectious diseases and parasitic diseases is so remarkable, what of the chronic ailments which may or may not be associated with this group, without covering even in a general way the problem of chronic diseases? It is apparent that sooner or later practically every individual, if he lives long enough, will become the subject of chronic disease, and that his chronic disease seeks expression in one or more groups of organs in the body resulting essentially

in functional impairment and lessened efficiency. The real problems of today, as I see them, are not necessarily the handling of the acute infections which have yielded so marvelously to the combined assaults of the research worker, the clinician and public health official, but the chronic ailments which we see on every side. I refer to the chronic heart, chronic kidney, chronic digestive, chronic pulmonary and chronic nervous diseases. These are real problems engaging the attention of every medical man, and too often carried in despair to members of cults not above question who try to help when the regular profession passes them by. There are two grand exceptions to these groups that almost stand alone in diagnostic efficiency and therapeutic effectiveness, namely: the handling of the diabetic and the tuberculous. By modern methods, education of the invalid, organized method of approach and the application of the modern methods, the diabetic and the tuberculous individuals are almost surely assured of a longer and better life and many die of intercurrent infections. While slightly behind these is the attempt of many members of the profession to bring to the patient with cardiovascular disease the fruits of modern discoveries, the readjustment in the method of living, the elimination where possible of etiological factors, and control by modern methods, which at least makes these sufferers useful members of society for many years. But how many of the profession know how to treat the chronically infected individual, the patient with peptic ulcer, chronic cholecystitis, cholelithiasis, colitis or even constipation, renal disease in all its manifold associations, and the various chronic diseases which affect the myocardium. It is the liver case, the ulcer case, the bowel case, and the kidney case, everywhere, who needs the benefit of modern methods.

Take for instance peptic ulcer. This is seen everywhere, and how it is treated! The patient is told to follow a diet. In a few days his symptoms disappear and later he has a recurrence, but the recurrence may be hemorrhage or perforation. In less than a week the patient with uncomplicated ulcer of the duodenum is comfortable on proper treatment—but is he cured? NO! and he never will be until the profession realizes that peptic ulcer is a chronic ailment, that the average history of peptic ulcer is three or four

years or more in gastric ulcer and seven years in duodenal ulcer, with many individuals who have a history of almost twenty years. Modern medicine says that in the great majority of cases where you can diagnose this affection, that as soon as you do locate it you should do several things. First, you should take the patient in your confidence and outline for him the natural history of the disease. Explain that it takes six months to several years or more to heal the disease; explain to him that no symptoms do not mean cure; explain to him that if he has an ulcer he must readjust his life and live in such a way, with periodic checkups, until x-ray examination and analysis show the lesion to be healed. In every instance get photographs which show the lesion and at intervals photograph the lesion. A periodic checkup will interest the patient, it will be something to strive for and I have yet to see the patient who was not interested. Tobacco and alcohol are absolutely forbidden and the ulcer patient must study diet lists and diet times. He must realize the necessity of in-between feedings, and he must follow them. He may not compute calories, but he ought to know what he is driving at, and know which foods are hard to digest and produce much secretion and which are permissible and when. If the engine of his automobile knocks he soon finds out what is the matter, if his internal economy knocks he does not always find out what is the matter, but when he does he is usually willing to follow the remedy. This real problem demands precise diagnosis, x-ray control, readjustment of living, certain don'ts a knowledge of dietary indications, and reasonable checkups, and when these are followed through the results are more brilliant than most of the text-books of medicine acknowledge. Practically every one of these points is now available, and when the practicing physician works with the roentgenologist, doing his own internal work, it is not long before he achieves results.

Another real problem is gall bladder disease. Gall bladder disease is the commonest cause of upper abdominal indigestion and gives rise to the most bizarre symptomology. It may be as plain as anything could be with an attack of colic which couldn't be anything else, or it may be an insidious thief by night causing only insomnia, flatulence and a sense of physical deterioration. To me gall bladder disease is always an end re-

sult. Almost always it means pathology elsewhere, and when you have gall bladder disease you usually have colon disease, liver disease, and often pancreatic disease. Gall bladder disease can as effectively serve as a focus of infection as do tonsils, teeth, sinuses and prostate. It causes myocardial manifestations in almost one-half of all chronic cases; in less than that it causes joint disturbances, and nearly all of these sufferers have nervous disturbances. Does the removal of the organ cause this sequential pathology to disappear? Not in my experience, and I have examined several hundred who had had gall bladder operations. The reason is simple enough. The surgeon can only remove the end result, the gall bladder, and if that causes the pain, the pain is removed, or if that causes the flatulent indigestion, that may disappear, but he cannot remove the liver, the pancreas or for that matter the heart which is affected.

To me, practically all gall bladder conditions are due either to infection or faulty metabolism. If infection, then the primary focus is usually in the head, and in my opinion in the tonsils or the sinuses and less frequently in the teeth. If Wilkie in England is right, then gall bladder disease is most frequently an intramural streptococcus infection, and that streptococcus is in the throat most probably. But the gall bladder is largely dominated by the liver, and the liver is to a large extent dependent on the type of portal blood coming from the intestinal tract. Take the question of cholesterol stone. No exposé to my knowledge is so interesting and so convincing as that of Chauffard "Sur La Lithiase Biliare." This author points out that the blood cholesterol is increased in many conditions, notably at the end of pregnancy and after certain acute infections and in other chronic conditions. He goes on to prove that an increase in blood cholesterol is followed by an increase in the cholesterol of the bile. The cholesterol is held in solution by the bile salts which are manufactured by the liver cell. If the liver cell, overwhelmed by intestinal toxins, fails to form sufficient bile salts, cholesterol is no longer adequately held in solution, and a series of events, in which gall bladder stagnation may play a part, result in the separation of this element and the formation of stone. We believe that stone results from infection, stagnation and chemical alteration of bile, and much

depends probably on the latter which is largely dominated by the liver. The demonstration by a number of observers of coincident hepatitis with cholecystitis shows how difficult it is to assume that the gall bladder alone is the cause of trouble. Today we can take a careful history, make a thorough physical examination, study the color sequence, microscopy, crystallography and cultural characteristics of the bile, and we can in many instances by cholecystography visualize the gall bladder and make a more or less exact diagnosis. The clinician who correlates his duodenal findings with his cholecystography is in a much better position to appraise the situation than is the man who takes the x-ray testimony alone or the testimony of the duodenal tube. The duodenal tube may show unmistakable evidence of duct infection and the x-ray is entirely negative, or vice versa the x-ray may show several stones and tube evidence may be sparse or lacking, furthermore, today not only as a means of diagnosis but for the larger purpose of therapeutic control we need this information. I have repeatedly seen a positive cholecystogram which later functioned normally, and I have repeatedly seen biliary tract disease improve or disappear on treatment and no other method would have made this possible. It is absurd to think that you can look in a man's face and tell what is the matter with his common bile duct, any more than you can take his pulse and diagnose nephritis. The days of simply looking at the tongue and taking the pulse are gone forever. We take the pulse and look at the tongue, but you can look forever and you won't see gall stones, a beginning carcinoma, or an ulceration. We know we cannot palpate early carcinoma, and very few of us diagnose hepatitis and even fewer pancreatitis, although Loeper claims that if we were to carefully analyze the duodenal and intestinal contents pancreatitis in mild forms is probably as common as tonsillitis. But today with the duodenal tube and the x-ray we can evaluate the gall bladder case. What can we then do with these cases? First, let us remember that gall bladder disease is an end result, nearly always either infection or a general digestive disturbance. If infection, we look for foci. Tonsils and teeth are most obvious; less obvious, but in my experience equally common, are sinus conditions. How many physicians can accurately diagnose these

sinus infections? It is well to say eradicate a focus, but when you eradicate a focus do you get rid of the infection? Obviously not if the infection is in the gall bladder wall. For fifteen years I have systematically cultured the nose and throat, the bile and the bowel wall. Time and again I have obtained the same organisms in the colon as those encountered in the nose and throat in the duodenum, and how many times have I encountered a non hemolytic streptococcus in the sigmoid which in every respect was similar to that found in the throat. What is the significance of all this? I do not know, but for years, ever since I left Pasteur Institute I have tried vaccination with exceedingly small doses over long intervals, and I believe that my results speak for themselves. You may ask me how do I know that I am right? I answer that I am not sure and I can only judge from the results on the patient. But on the other hand if you can tell me any method other than that of bacterial immunization where infection is widespread which has an iota of reason in its administration, I would like to know about it. I am much interested in bacteriophage, and last month we began our first treatment of colon infection with a bacteriophage prepared at the Stanford University of California where they are actively interested in that problem. If we do eliminate the primary focus of an infection, particularly if that infection is a low virulent organism producing slow and insidious changes in the host, have we any guarantee that the elimination of that focus settles the story and that that focus is the only focus? I do not believe this for a minute and I do not believe that people after the age of forty have the streptococcus viridans only in their infected teeth. I would suggest that you treat low virulent infections with consultations with your bacteriologist rather than your medical consultant. A chronic infection is an internal medical matter, but it is much more a bacteriological matter demanding expert work. I couldn't get along without the radiologist, the chemist, and the bacteriologist and I would not put the bacteriologist last. I feel therefore that in all cases of cholecystitis of the infection variety, that the bacteriological treatment comes first. You may fail either because you did not get the causative organism, or because instead of gradually teasing immunity, you overwhelm it by large doses.

But the chronic gall bladder case is a peculiar individual. His idiosyncrasy is toward fats. Fats are his bugaboo on the diet and that is easy to understand, because fats in contradistinction to all other foods exert a selective action on the gall bladder, bringing about the expulsion of gall bladder bile. If the organ is inflamed, you do not get rest by the inclusion of fats in the diet. If a stone is partly impacted in the cystic duct, fats may do the rest. Remember that the precious egg has 33% of fat in the yolk, and three to four per cent. is cholesterol. Salmon, mackerel and herring are fatty fish and frequently cause attacks. In several weeks I saw two cases with obstructive jaundice both induced by mackerel, which the people in our part of the world love so much. One was a lady with a calculus cholecystitis, the other was a waiter who served mackerel late one night and the guest only ate part. He ate the other part and by morning was in agony. His penalty was stone impaction in the common duct. There is a diet for the acute or subacute gall bladder and the diet is the low cholesterol diet and many of these sufferers are made comfortable. Very early they learn to eschew fried foods. Parturier wrote of the psychology of gall bladder disease, pointing out that many are chronically tired, sleep poorly, because the conscious gall bladder probably makes its most expulsive effort after the evening meal. Most of them are constipated, the constipation being usually of the spastic type and the left colon is usually over sensitive, probably due to emotional as well as digestive disturbances. Here again there is a method of living, a definite program which includes the elimination of infection, the proper dietary, and most of all the control of the bowels, because the bowels control the portal blood, and the portal blood determines the character of the work performed by the liver cell, and the liver cell determines the character of bile which enters the gall bladder. We have heard of countless mineral water cures and spa treatment so popular in Europe, but if the majority of people who habituate these spas would carry out for the 365 days of the year the simple dietary and medicinal precautions that they furtively carry out in two or three weeks sojourn at a spa or cure, they would be better. To overeat for eleven months and starve for the twelfth is as sensible as running an automobile at sixty miles

an hour most of the time, and then keeping to the twenty mile limit occasionally—the damage is done when the engine is abused.

Let us therefore make a careful diagnosis, take these patients into our confidence, alter their lives, educate them on matters of diet, on bowel control, on the elimination of infections, and then use the weapons which modern medicine has given us. Use the modern cholecystogram and the duodenal tube intelligently and not fanatically and you will be surprised at some of the results which are obtained.

The chronic cardiac case which has an apex beat one-half to one inch outside the nipple line and perhaps hypertension, did not get his trouble overnight. His symptoms may be only one week in duration, but the curved nails, the enlarged heart and the hypertension were months and years in coming. He may have a little swelling of his ankles, a few rales at the bases, and perhaps dyspnea, but his pathology is already well established. You may quickly get rid of the symptoms, but do you get rid of the disease? Every case is a case for careful checkup, and nearly always the cause is outside of the heart, perhaps tonsils, teeth, gall bladder; always the question of chronic infection—and to my mind always the question of bacteriological consultation. If he is permanently damaged, and he usually is, then he shows these symptoms, then your business is to determine how far you can control the underlying cause, whether there is existing etiology as well as pathology, and finally to rearrange his life in such fashion that he will go at reduced speed for a long time to come. Few of us have applied the knowledge of modern science to our problems and how long it takes before any but the most ephemeral things are immediately applied to the sick. In no group of cases is a carefully planned existence by a thoughtful physician of more value than in the cardio-renal group. He can detect danger signals before the patient appreciates them, and he can checkmate decompensation or an impending rise in blood nitrogen before the actual signs of definite decompensation appear, but here again he can only do it if he educates the patient and the patient co-operates. I can see the physician of the future in no other light than that of a highly trained consultant giving the most precious ad-

vice in the world, namely how to run your own engine. So many physicians have compared the human body to an automobile engine. But you can buy spare parts for the latter and if necessary a new engine, but as long as we live we have only one engine and there are no spare parts.

WHY THE MEDICAL PROFESSION IS OPPOSED TO THE SHEPPARD- TOWNER LAW*

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The Sheppard-Towner law has now died twice—the second death rattle having taken place at the end of June, 1929. A second resurrection is at present being frantically attempted under the name of Jones-Cooper Bill. Having had 7 years of Sheppard-Towner experimenting, we can arrive at a fair estimate of what to expect from Jones-Cooper, should that bill become a law.

For one to dispute that the sum and substance of Sheppard-Towner-Jones-Cooperism has arisen out of socialistic, communistic propaganda from Russia and Germany, is to confess gross ignorance of the mass of printed matter adduced by the Children's Bureau in support of this particular bit of vicious legislation.

From the first, the American Medical Association as well as the Illinois State Medical Society, strenuously opposed the Sheppard-Towner Act, and organized medicine is now opposed to this form of legislation under the name of Jones-Cooper. A few scattered doctors may approve the Sheppard-Towner law. It is hardly to be expected that the fair complexion of so great body as that of the medical profession of America should not here and there, as an exception, show a disfiguring pimple made conspicuous by its background. There was a notorious exception among the 12 Apostles.

The doctors charged that the activities contemplated under the Sheppard-Towner Act would work out 90% medical, and 7 years experience with that law shows the estimate to have been erroneous—98% is more nearly correct.

The constitution of the United States clearly and precisely defines the powers of the congress,

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and every one with a common school education knows that the states have reserved to them all powers not forbidden in this same constitution. It is conceded by every one that the regulation of the practice of medicine is a prerogative of the several states. That the Sheppard-Towner law has been tolerated in its meddling with the practice of medicine is due to the smart trick of not making it mandatory upon the states. Bribery is often more effective than coercion.

The regulation of the use of narcotics as attempted by the Harrison Narcotic Act and the Porter Bills may be cited in justification of this meddling with the practice of medicine by Sheppard-Towner, and perhaps the "noble experiment" of Volsteadism, which 70% of the people of the country think should be changed or repealed, and which is looked upon by doctors as federal meddling with the treatment of the sick. This sort of alleged reasoning would be good if one blunder, or crime, justified others—"worse and more of it."

The testimony of the job holders under the Sheppard-Towner law should be disregarded—in a sense, that testimony is bought and paid for in jobs. The same may be said of the politicians in the states that handle the 50-50 bargain money from the federal government. Government grants smack so of *something for nothing* that their lure is well-nigh irresistible.

Comparisons are sometimes odious, sometimes misleading, and again sometimes dishonest. Some of the emotional hysterical chattering about death rates of mothers and babies in this and other countries that I have heard can be rightfully described as having all three of the undesirable characteristics just mentioned. Death rates in different countries do not mean the same by any manner of means. The causes of death included in American statistics are much more inclusive than are found so listed in many foreign countries. There are no reliable statistics in existence that show the United States ranks below most other civilized countries. A mile on sea is 800 feet longer than a mile on land. What sort of a measure, then, is a mile? There is no uniform international standard for computing maternal mortality rates.

The star exhibit of the Children's Bureau is New Zealand. A little island colony in mid-

ocean and having a population about $\frac{1}{3}$ that of Chicago. Let us come nearer home. Oak Park, Illinois, is the largest village in the world and one of Chicago's largest suburbs. Oak Park has a higher birth rate than has New Zealand and Oak Park has a much lower death rate among babies than has New Zealand.

To be sure, Oak Park is not so large as New Zealand, but then again the population of the United States is a hundred times as great as that of New Zealand. Furthermore, Oak Park is part of the state of Illinois—one of the states that scorn Sheppard-Towner doles.

A critical examination of "Publication No. 194" of the Children's Bureau shows maternal mortality in Sheppard-Towner States to be right where it was when the Sheppard-Towner activities were launched, and that means just this: The Maternity part of Sheppard-Towner is a total failure—indeed, nine million dollars worse than total failure. Nine million dollars of talk wasted—and be it remembered that Sheppard-Towner law never contemplated giving mothers anything but talk—no nourishment for the baby—no medicine for the mother—just *talk*. On page 176 of this same remarkable document is given a list of 31 countries showing infant mortality rates. Now if Illinois were added to this list, and this can be done without any apology, as Illinois has a population far greater than that of any one of a majority of the foreign states listed, Illinois will be found to rank only second below the best of all.

The average showing of the Sheppard-Towner states is so much poorer than that of Illinois, a state that refuses to sell its birthright, that the advocates of federal meddling with the sovereign rights of the states are greatly annoyed. The State Medical Society is roundly denounced. The State Medical Society is proud of the enemies it has thus made. The State Medical Society of Illinois believes that the practice of medicine should be supervised by the states and that the attempt to turn over the health matters of maternity and infancy to a lay federal bureau at Washington not manned by medical men but thoroughly well-ladied by spinsters, is in many ways a vicious experiment. Water puts out fire—so does milk. The Sheppard-Towner law is a milk wagon on its way to a fire.

ESTHETIC SURGERY OF THE PENDULOUS BREAST, ABDOMEN AND ARMS IN THE FEMALE*

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The term plastic surgery has unfortunately fallen into some disrepute among ethical surgeons owing to its exploitation by unscrupulous quacks and charlatans.

For several years past the feminine aspiration for so-called "beauty" has been emphasized. It has been said that where refinement is greatest, the quest for feminine pulchritude is strongest. Whatever it may be, the natural desire of women for beauty of form has been craftily commercialized and intensified by ingenious advertising, as anyone may see who looks through the announcements in current periodical literature. Even the smoking of cigarettes has been invoked as an aid to beauty.

In the field of medicine and surgery the quack has been quick to seize the golden opportunity and has spread his bait very alluringly, offering to remove facial and other defects, to straighten distorted members and to substitute perfection for ugliness, and deformity. No wonder that gullible woman has laid the flattering unction to her soul and fallen before such fascinating snares believing implicitly in these wonderful cosmetic gods who in such wily ways, for a fee, promise to create a Venus out of a very Hecate or Medusa! The blatant advertising and even radio broadcasting of these unscrupulous cosmetic pirates, buccaneering under the title of plastic surgeons, have unfortunately drawn thousands of trusting women into their nets only to be despoiled of their last cent and, more often than not, left in a condition of suffering and disfigurement far worse than their original state.

Is it then any wonder that the name of plastic surgery should be malodorous to the nostrils of the laity or that reputable surgeons should look askance at so-called plastic work?

And yet, despite all this, there is a legitimate and well-defined field and rational indications for real plastic surgery, the possibilities and impossibilities of which are fairly known. Its practice calls for not only correct anatomic and

physiologic knowledge and special surgical skill but also for what may be termed a peculiar surgical and esthetic sense so that, in cases that call for it, the final result of the reparative surgical work may be a correct modelling of form which will be esthetic and in harmony with the canons of beauty as applied to the human form.

Recognizing that there is such a legitimate field, it behooves us as surgeons to cultivate it, to prevent its being choked by quacks and to reap its rewards. The surgical charlatan flourishes only because legitimate surgeons do not make the necessary efforts to prepare themselves properly for the opportunities that are offered to them. We should have professors of plastic surgery in our universities and I believe such a start has already been made and that such chairs have been created and filled in some prominent medical colleges.

A properly trained surgeon who undertakes plastic work will find little danger in it. It may not always give results that measure up to ideals of beauty of form, but, at least, as in much of the post-war work of French surgeons, it should always be possible to replace hideousness and deformity by presentable appearance.

LIPECTOMY (ADIPECTOMY) IN THE FEMALE

In this paper I wish only to speak of plastic surgery associated with hypertrophy of the breasts, arms and of the abdomen in the female.

It is a sad fact that the human form, which attains its perfection of grace and beauty in woman, often degenerates, by some perverse fate, and becomes transmuted into an ugly, amorphous, grotesque mass entirely lacking in proportion and symmetry, due to deposits of adipose tissue. The causes underlying this transmutation are many. Excessive adiposity is seen almost constantly in middle aged women and often enough in comparatively young women. Further than that it is a physical, mental, social as well as moral handicap. Every woman with heavy pathologic fat deposits, strongly and consistently desires to rid herself of this incubus, relief from which at times can be given by surgery alone.

I do not wish to be understood as recommending surgery for all types of adiposity. It has its own well-defined indications and limitations. Some types of localized fat deposits, even pendulous breasts and abdominal deposits, are of endocrine origin and should be amenable to en-

*Read before Surgical Section the Illinois State Medical Society Meeting, May 21, 1930.

ocrine medication and non-surgical therapy, or a combination of both. (Figs. 1 and 2.)

General obesity resulting from disordered metabolism is a matter for the internist. (Fig. 3.) Localized fat deposits not due to the causes mentioned, form the ideal group of cases for surgical intervention. In any case it is only when medical methods have failed and the symptoms, such as will be referred to, demand relief that surgery is indicated.

Plastics of the Female Breast. Coming within the scope of plastic surgery are those cases of virginal hypertrophy of the breast of unknown

to as great an extent upon their appearance before a critical audience, as upon their talent, it is easy to see that the disfigurement by large pendulous breasts puts them at an enormous



Fig. 2. Endocrine adiposity, arms and back.



Fig. 1. Unilateral hypertrophy of the breast on an endocrine basis. (Courtesy Dr. Karl Mahlman.)

etiology in young women which places them at an economic disadvantage in following their avocations or are a permanent source of extreme discomfort, chagrin and social disadvantage. Such as for instance in the case reported by Peters¹ in which the two removed breasts weighed 25 pounds, or in Normand's case where the weight was more than 4 kilograms and the breasts laid over the abdomen below the umbilicus!

In the case of actresses, dancers and other professionals, whose earning capacity depends almost



Fig. 3. Adiposity on metabolic basis.

disadvantage and may be a cause of absolute vocational failure. (Fig. 4.) In a case reported by Kuttner the patient was an opera singer who on account of enormous pendulous breasts was

compelled to bandage them to the abdomen. This limited her breathing so that her voice lost its tone and volume.

In private life the economic disadvantage is less obvious, but it is easy to understand that a sensitive business woman, or one who has to appear in public in any capacity, would suffer keenly both physically and psychically from the abnormality and disgracefulness of enormous pendulous breasts. Such may lead to depression, to a feeling of bitter consciousness of the defect and to an inferiority complex eventuating in a



Fig. 4. Virginal hypertrophy of the breasts.

withdrawal from normal social contacts. Such person would certainly wish to be relieved of such pathologic unsightly development, and a surgeon competent to do so would be ethically justified in removing this adipose stigma, or at least surgically restoring conditions to normality by any plastic procedure that was safe. For such a patient the operation would be to a great extent an economic matter; but in elderly women with enormously hypertrophied breasts the grounds for operation are rather the concomitant pathologic conditions produced by the deformity, i. e. the cutaneous friction leading to maceration, inflammation and eczema; to dyspnea and irritative cardiac action; the tendency to a waddling gait and general interference with active locomotion. (Figs. 5 and 5a.)

This view of mammary plastics both for young and elderly women has been accepted by European surgeons and relief plastic surgical measures are more commonly practiced there than in the United States.



Fig. 5. Hypertrophy of breasts.



Fig. 5a. Hypertrophy of breasts.

Of the many methods devised the most popular have been mastopexy through tissue adjustments by axillary resection, (Figs. 6 and 6a), as described by Dartigues in 1924, and more recently by Glaesmer and Amersbach. ("Raffungsmethode."),² This method applies only when the disfigurement is not very great. Then came the procedures by vertical subareolar incision and removal of superfluous gland tissue which left

ugly disfiguring scars. Finally, in 1909, Morestin described his technique of plastic partial resection of the breast between transverse incisions over the anterior surface of the gland and beneath it with transposition of the nipple and its areola. This procedure has numerous successes to its credit. (Fig. 7.) In contradistinction to Morestin's transposition of the nipple, I was the first (as early as 1922,³), to completely disconnect the nipple and areola from their sub-jacent bed and successfully transplant them to a new position at the proper level of the breast. (Figs. 8, 8a, 8b and 8c.) The patient in my

has devised a circular knife to better carry out my method of mamillary transplantation. He claims in a recent article,⁴ priority in total mastectomy with transplantation of the nipple and areola, stating that "he alone had the conception of it and was the first to execute it." This claim is scarcely equitable in view of the



Fig. 6. Pendulous breasts before mastopexy.

first case was a young woman of 27 years in whom all forms of medical treatment had failed to reduce a pair of enormously hypertrophied breasts. The ablation and transplantation of the nipples and areolae into the newly constructed breasts gave an excellent cosmetic result. The patient was able to resume her vocation which she had been obliged to give up. While the transplanted nipples "took," there was some superficial necrosis due to defective technique. This can now often be avoided by correct technical procedures. (Meticulous removal of the true dermal components of the areola only, leaving any subdermal tissue carefully out of the transplant.) The patient, however, must be apprised that nipple transplantation sometimes fails.

I may add that my friend Dartigues of Paris



Fig. 6a. Pendulous breasts after mastopexy.

fact that in 1925,⁵ he acknowledged that breast amputation with free grafting of the nipples had been carried out by myself in 1922. This surely is an unintentional oversight on his part and a slip of his brilliant pen.

The technique of this operation may be succinctly described as consisting of a supraareolar convex incision over the anterior hypertrophied and pendulous gland and a second incision beneath the globular mass, with removal of the

glandular and adipose tissue lying between the two. The nipple with its areola are carefully dissected from the subjacent tissue in a circular manner and freely transplanted into the bed prepared for it, occupying the normal site of the nipple. It is unnecessary to emphasize that the greatest exactitude and skill are necessary in approximating and suturing the raw surfaces as well as in remodeling the remaining tissues so as to give the proper contours of a natural breast and to avoid lumping, lopsidedness and the ob-

fere with pregnancy. This is not true. Dartigues and others who have carried out numerous operations of this kind have never observed it, and I have myself seen pregnancy proceed to term in a case in which I had executed the operation, and in one instance where both breasts had to be completely amputated on account of suspected malignancy in a young woman. Nor is menstruation affected in any way. On the other hand Biesenberger⁶ reports that his method of transplanting the nipples without interfering

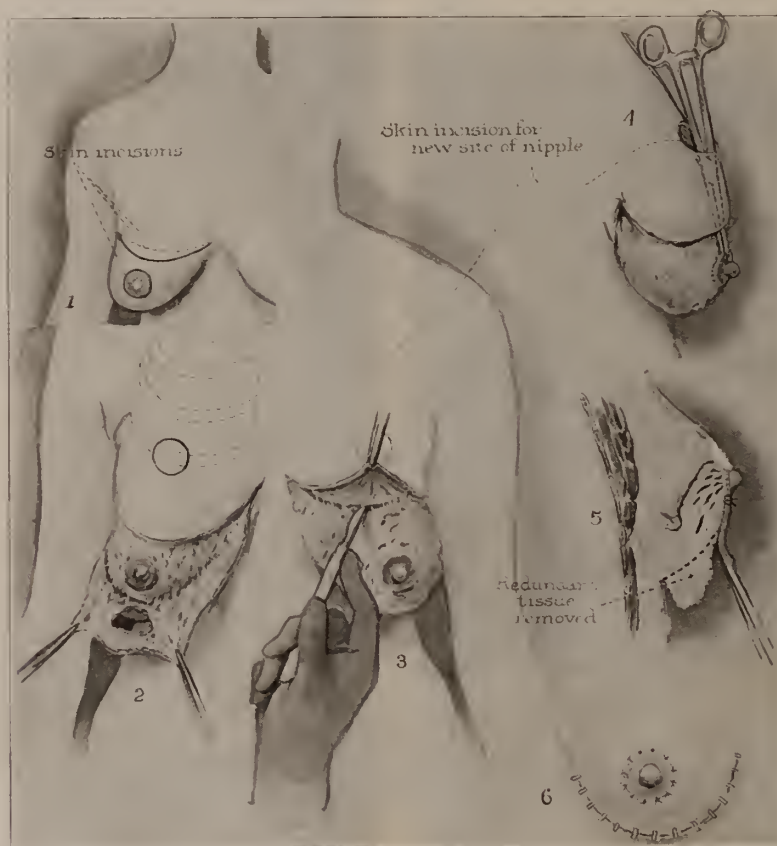


Fig. 7. Transposition of the nipple with resection of the breast.
Two stage operation.

trusion of a conspicuous scar. Surgical artistry and special training are requisite for the proper esthetic execution of this operation. A breast well modelled and a scarcely visible linear scar of a harmonious curve, mainly hidden from view, is an ideal result. Such should not be expected from a horizontal or vertical scar with uneven outline and projections. (Figs. 9, 9a, 9b.)

Some have expressed the fear that removal of the glandular tissue of the breasts would inter-

fere with pregnancy. This is not true. Dartigues and others who have carried out numerous operations of this kind have never observed it, and I have myself seen pregnancy proceed to term in a case in which I had executed the operation, and in one instance where both breasts had to be completely amputated on account of suspected malignancy in a young woman. Nor is menstruation affected in any way. On the other hand Biesenberger⁶ reports that his method of transplanting the nipples without interfering

with the ducts has not interfered with subsequent lactation.

Plastics of the Abdomen. With regard to abdominal plastics, surgical indication is not based, as in the case of the breast, so much upon economic and esthetic grounds as upon disability. Abdominal adiposity is more generally observed in women of advanced middle age. (Fig. 10.) The enormous deposits of fat are generally limited to the subcutaneous layers and do not invade

the musculoaponeurotic layers; they may form a regular fat-apron, which hangs down over the thighs, (Fig. 11), sometimes as far as the knees. It is almost unnecessary to dwell upon the vari-

interference with locomotion, interference with marital relations, interference with one's occupation, inability to assume a graceful pose or to attend to the hygiene of the lower part of the body, waddling gait, social disability, disturbance of metabolism and incapacity for rational enjoyment of life are all seen in these abnormally obese persons. These individuals are depressed and often exhibit a morose and even suicidal tendency. The idea that fat people are merry and contented is a literary superstition which may have originated with Shakespeare's poetic fancy as expressed in his *Julius Caesar*.



Fig. 8. Virginal hypertrophy of the breasts.



Fig. 8a. Two weeks after plastic resection of breasts with transplantation of nipple and areola. Note appearance (superficial necrosis) of nipple.

ous disabilities that this condition may create for the unfortunate sufferer and I will only enumerate a few. Pain, backache, dyspnea, skin excoriations and eczema of the underlying cutaneous surfaces, inguinal excoriations, fatigue,



Fig. 8b. Appearance of breast and nipple three weeks after operation.

Where the adiposity is limited to abdominal pendulosity and medical and dietetic measures fail to relieve this commonly met condition, and if the trouble is not one of general but local fat deposit, surgical measures for its relief are justified. The risks in trained hands, are slight. The benefits to be obtained are far outweighed by the misery the condition often produces.

The operation of lipectomy is not new. Kelly⁷ practiced it in 1899, removing an enormous mass of fat (7450 grams) from the abdomen of a very obese woman. Peter operated

on a similar case in 1901; the weight was reduced by more than 60 pounds following operation.

In the earlier operative measures for the removal of fat, as for instance in Creveling's procedure, the incision was carried through the

whole abdominal wall down to the peritoneal cavity. Now it is limited to the fascial layer and there is less risk.

The method the writer practices for many years (1920), consists of a well planned crescentic incision (which, if necessary, may be 80 cms. long or more), running transversely over the



Fig. 8c. Final result.



Fig. 9a. Virginal hypertrophy of breasts. Author's method of reconstruction with the transplantation of the nipple.



Fig. 9. Virginal hypertrophy of breasts.



Fig. 9b. Same patient: Final result.

superficial tissues at the superior and inferior limits of the panniculus adiposus, (Fig. 12). Cuneiform excision of the fat mass, careful apposition of fat layers without tension and approximation of the skin edges. Much will de-

pend upon the experience of the surgeon with this particular type of plastic work. (Figs. 13 and 14.)



Fig. 10. Abdominal adiposity (Metabolic.)



Fig. 11. Abdominal fat apron.

It may be necessary to complete the cosmetic effect to resort to vertical elliptic excisions at the extremities of the long crescentic incisions.

I would ask the surgeon who is about to undertake an abdominal lipectomy to consider well the case before him; noting the disproportion present and forming in imagination an outline of the



Fig. 12. Author's crescentic incision for abdominal lipos- or adipectomy.



Fig. 13. Fatty abdominal apron in a dancer, developing postpartum.

most perfect results obtainable by efforts at reconstruction. The operation is not a mere amputation of fat, but it must also be an effort to restore some of the lost contour and grace to the human form. A nicety of surgical judgment amounting almost to artistic genius is called for to bring together the edges of the gap, to secure

perfect coaptation, and to place sutures in such a manner as to leave as little evidence as possible of surgical intervention. Above all hemostasis must be exact and perfect. Forceipressure, liga-

of practical surgery, drainage calls for special supervision to avoid serous or sero-sanguineous collections, as fatty tissues easily break down and exudates easily become infected.

The operation of abdominal lipectomy as described has been performed by me, in the last ten years, many times and I can say that when due precautions are observed the results are

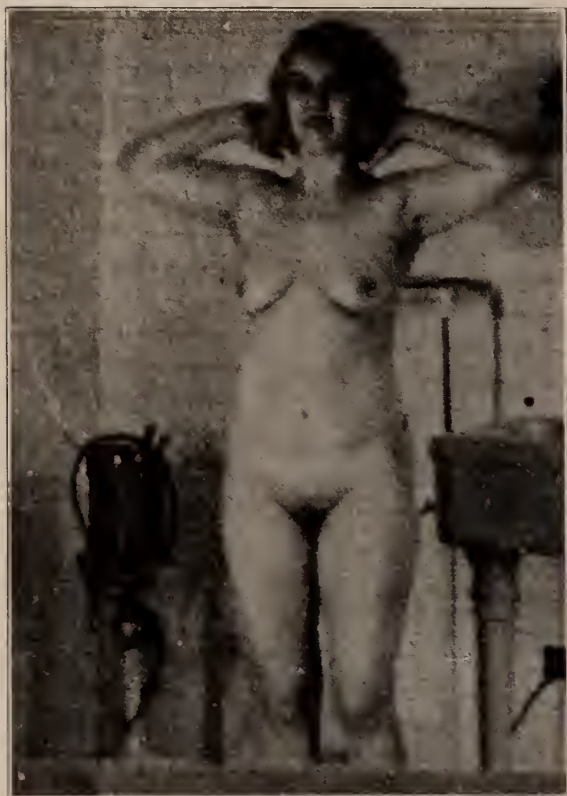


Fig. 14. Patient shown in preceding figure after operation.



Fig. 15. Excessive fat deposits about arms and abdomen in young woman. Vocational disability.

tion with delicate catgut of proper tensile strength, may all be used to attain this end.

This is not an operation which can be taken up without study and practice. If it is, it will be bungled. Moreover, in such cases as a matter



Fig. 15a. Demarcations prior to operation. Same case as in preceding figure.



Fig. 15b. Final result: same patient.

always satisfactory to both surgeon and patient and that the condition does not as a rule recur.

I should mention here that for cosmetic reasons the umbilicus when it is pulled down and forms part of the fat apron and must be removed with it, may be resected and transplanted as a free transplant in its approximate usual site. As a matter of fact Normand⁹ has recently reported that he did this successfully three times.

In some elderly women hypertrophy of the breasts is concomitant with hypertrophy of the abdomen. Both plastic procedures can be done in such cases, the breasts being dealt with first. An interval of several months should be allowed between the two procedures. In some instances the excessive fat deposit seems to centralize about the arms, or selects arms and abdomen. (Fig. 15.) Plastic adipectomy carefully planned and meticulously executed often yields surprisingly gratifying results. (Figs. 15a and 15b.)

The adiposities surgically removed do not recur. Fat cells do not accumulate in mature connective (scar) tissue.

Keloid formation should be avoided. To minimize scar formation, besides careful operating, the use of mesothorium X and diathermy following the operation may be used to great advantage.

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RELATIONSHIP BETWEEN THE STATE DEPARTMENT OF PUBLIC HEALTH AND OTHER ORGANIZATIONS*

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So recently as 25 years ago the American people looked with alarm at any movement toward monopoly or the merging of great and powerful organizations in the business world. Today the exact opposite is true. Everybody, from the man in the street to the President in the White House encourages the cooperation and coordination of

industrial and commercial resources which give us more and better goods at cheaper prices with greater profits and higher wages. Chain stores, chain banks, chain factories and investment trusts are evidences of this very pronounced tendency toward cooperation which has brought with it such a national wave of prosperity as the world has never before witnessed.

The plan adopted so successfully by big business is to organize industry, finance and commerce on a scale commensurate with the task to be accomplished. Billion dollar concerns are created to deal with billion dollar markets and billion dollar productions.

Both the resources and the problems in the public health field in Illinois suggest that we may very profitably follow the plan of big business in conducting our affairs. We have three rather powerful agencies, the Illinois Medical Society, the Illinois Tuberculosis and Health Association and the State Department of Public Health. The motive and the reason for being, of all three, is substantially the same. Each is working to give people health and more of it.

With a common purpose in view but with resources that differ somewhat in magnitude and character, the big business man would suggest a merger. Pooling of resources and directing the program from a central point would be the plan. It seems rational to believe that this method, which has demonstrated so well its effectiveness in commerce and industry, would yield results no less favorable in public health work.

The position of the State Department of Public Health is somewhat different from that of any voluntary agency. The obligations and duties of the Department are set forth in the law. Excerpts from the Civil Administrative Code, including paragraphs No. 2, 12 and 13, read as follows:

The department of public health shall have power:

1. To have the general supervision of the interests of the health and lives of the people of the state;
2. To supervise, aid, direct and assist local health authorities *or agencies* in the administration of the health laws;
3. To enlist the cooperation of organizations of physicians and other agencies for the promotion of the public health in the improvement of

*Address before the annual meeting of the Illinois State Tuberculosis and Public Health Association, at Joliet, October 29, 1929.

health and sanitary conditions throughout the State.

These quotations from the law make very plain the position of the Department of Health in relation to other agencies, whether official or voluntary. We have no choice but to plan and proceed upon the grounds that the responsibility of leadership in public health work in Illinois is vested in the Department. This, however, seems altogether right and proper. Sources of information that might be closed to, or at least beyond the easy reach of other agencies, are open to the Department. In the Department is reposed, furthermore, the legal authority and power for performing activities which involve questions of law.

The Problem. Let us consider the public health problem in which these three agencies are immediately interested as though it involved tuberculosis alone. That disease still causes more than 5,400 deaths annually in Illinois in spite of the splendid improvement in mortality which has accompanied anti-tuberculosis efforts during the last 25 years. Carefully conducted surveys have shown that 9 active cases of tuberculosis are left among the living for each death per year from that disease. If this ratio prevails in Illinois there are now no less than 48,000 tuberculous individuals in this State.

Tuberculosis then, is still a public health problem of the first magnitude in Illinois. Its character, however, seems to have changed considerably during the last four or five years. Subsequent to 1918 the death rate per 100,000 population from tuberculosis in Illinois fell in remarkable degree from year to year until 1922. From 128.7 in 1918 it dropped to 114.7 in 1919, to 100.5 in 1920, to 84.9 in 1921 and to 83.8 in 1922. Since 1922 the decline has been very gradual* in the State while it has actually been on the increase in Chicago.

Furthermore, the tuberculosis problem in the extreme southern portion of the State is far more acute and much greater in ratio to the population than elsewhere in Illinois. Last year, for instance, death rates ranging from 110.6 to 222.2 per 100,000 population were reported from 6 of the 34 counties which make up the southern third of the State, whereas only 4 out of the other 68 counties reported rates in excess of 100.

The average rate for the 34 southern counties last year was 68.1 compared with 55.1 in the 35 central counties and 54.4 in the 33 northern counties exclusive of Cook. These data are not peculiar to last year but represent a condition which has prevailed right along. They indicate that there are 117 more tuberculous people per 100,000 population in the southern third of the State than in all the rest of the State outside of Cook County.

These facts suggest that the sort of anti-tuberculosis program which we have followed in the past has done about all it can to reduce mortality in certain areas whereas its vigorous application in other sections would result in considerable improvement. This situation makes imperative a change in the present tuberculosis program if further improvement in the mortality rate can confidently be expected.

A New Program. Tuberculosis causes an excessively high mortality in the southern third of the State for two reasons. First, very little anti-tuberculosis work has been done in that area. There is not a single public tuberculosis sanitarium south of Madison County. Second, the economic income of the people in the southern third of the State is much less than that elsewhere in the State. In 1925 the per capita income in the 34 southern counties was \$376.00 against \$604.00 in the 35 central and \$689.00 in the 33 northern counties.

Recognizing these facts the new anti-tuberculosis program of the State must concentrate a large amount of effort upon the southern third of the State where poverty makes essential a considerable amount of outside help.

Evans suggests the construction of a State tuberculosis sanitarium which should be located in the Ozarks. Such an institution should be open to all indigent tuberculosis patients of the State. Due to prevailing circumstances and conditions, however, the patients would come largely from the southern third of the State, where many are poor and where no sanitariums now exist. The successful operation of such an institution would depend upon the extensive cooperative activity of the medical profession, the tuberculosis association and the department of health.

Early diagnosis gives the only promising hope of further improvement in those large areas of

*A sharp decline occurred in 1929 when the rate fell to 70.1, a record low level in Illinois.

the State where the general program of the past has apparently reached the limits of probability in reducing mortality. Toward this end Bosworth recently suggested that the anti-tuberculosis program be limited in scope to the population under 20 years old, with particular emphasis upon those individuals who come from households where open cases of tuberculosis have existed. Monroe recommends a merger of county medical societies and county tuberculosis associations. With both ideas I am in hearty accord.

Beard points out that tuberculosis is found in the family history of one in each 14 students who matriculate at the university in Urbana. His records indicate that where parental tuberculosis is reported one out of 25 men and 4 or 5 out of each 25 girls show symptoms of the disease either as an infection of the pulmonary system or as an involvement of the bones or joints. Every physician of reasonably wide experience has observed the apparently sudden onset of tuberculosis in young people whose physical appearances gave the impression of superb health. Mortality statistics from our own records show that tuberculosis is far and away the greatest single cause of death among children between 14 and 20 years old and that this disease kills twice as many girls as boys of that age group. The excessive death rate from tuberculosis among females continues through the 20 to 24 age group but after that the trend changes so that at older ages deaths among males actually predominate.

These observations all point toward the period of youth as the time of infection. They are unmistakable evidence that continued contact with open cases is one of the greatest factors in spreading the disease. Consequently a selective program limited largely to this particular group of the population, may very reasonably be expected to result in marked improvement.

Discovery of tuberculosis in an individual immediately brings up the problem of treatment. With nearly 50,000 cases in the State, the question of a sanitarium bed for each is out of the question. A large number of the 15,000 cases reported annually to the State Department must necessarily be treated in the homes because there are less than 2,500 sanitarium beds in the State. Any effort looking toward any considerable increase in the detection of cases must therefore carry with it a workable provision for treating

many patients in the home. It must likewise provide for the isolation of open cases either in the homes or institutions.

The task before us is plain. Tuberculosis is still a Public Health problem of the first magnitude. While the development of an efficient vaccine would simplify the prevention of the disease, we have ample evidence for believing that the isolation of open cases, early diagnosis and proper treatment with rest, food, sunshine and air can be relied upon for a vast improvement in the present situation.

My proposal in solving the tuberculosis problem is for the medical profession, the State tuberculosis association and the State Department of health to combine their resources in a unified program. The same system would be effective against any other health problem and in the field of public health generally.

In Kentucky the state board of health and the state tuberculosis association are practically one and the same. As a result a splendid program against tuberculosis is in progress.

In Tennessee the state health department and the state tuberculosis society work independently of each other. The result is that the main function of the tuberculosis society, as far as I could learn, practically turns out to be the sale of Christmas seals.

Notwithstanding Dr. Bishop and the department of public health in Tennessee are playing a lone hand, they have a very efficient department and are doing wonderful work in combating tuberculosis, as well as other diseases incident to that state. Dr. Bishop is receiving the full cooperation of the members of the Tennessee State Medical Society. Their efficient methods might well be adopted by some other states.

In Madison County, Illinois, the county medical society and the county tuberculosis society are one and the same. The result is a harmonious program that is unsurpassed in effective effort and extensive enough to give promise of solving the problem in that county as nearly as present knowledge and facilities will permit.

My suggestion therefore is that the health organizations in Illinois follow the example of big business. Merging together would enable every agency to accomplish more at less expense than is possible through independent and uncoordinated activity.

The State Department of Public Health has the funds for employing a medical specialist in tuberculosis. It has funds for employing a staff of 15 public health nurses. At the invitation of county medical societies the medical specialist would be detailed to conduct clinics at convenient points. Here would be examined suspected cases, young people from homes where tuberculosis had existed, and underweight children.

No patient would get a report. Instead, the findings would be communicated to the family physician or a physician designated by the patient. The local physicians should attend these clinics and the suspects and definite cases should be turned over to them with such instructions as an expert might deem necessary.

For follow-up work the assistance of nurses of the State Department of Public Health would be available. In counties unable to support nurses of their own the state nurses could do much of the detail work. Elsewhere they would assist and advise the local public health nurses.

This plan would bring into play against tuberculosis all of the available public health machinery of the State. It would operate with equal efficiency against any other problem in the whole field of public health. It would be in keeping with the trend of the day.

THE DERMATUBIN TEST A COMPARISON WITH THE VON PIRQUET, MORO AND MANTOUX TUBERCULIN REACTIONS*

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AND

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The diagnosis of tuberculosis in infants and in children offers a problem which should not be evaluated lightly. The clinician occasionally is inclined to make a definite diagnosis on the basis of physical findings alone. The roentgenologist, in similar fashion, is apt to affirm definitely the presence of hilum tuberculosis on the basis of fluoroscopic and roentgenological findings present. If the clinician, in addition to evidence of glandular enlargement of the hilum, finds sup-

port for his opinion in the presence of positive allergic skin tests, he is apt to consider the diagnosis made. Similarly, if roentgenological findings suggestive of hilum tuberculosis are supported by the same positive skin tests, the diagnosis is considered established.

There are, of course, obvious objections to a diagnosis made on these premises. We believe that we can definitely say that a diagnosis of the primary tuberculous lung lesion or even hilum tuberculosis in an infant or child, should not be made from a physical examination alone. There are many other conditions which produce a glandular enlargement in and about the hilum, which enlargement can not be differentiated on the basis of physical findings alone, from tuberculosis. These non-tuberculous conditions also show roentgenologic findings which are in no wise different from the shadow densities produced by the tuberculous adenopathy. We are, however, not attempting a discussion of such conditions here.

Furthermore, the mere fact that a child with clinical or x-ray evidence of hilum enlargement shows, in addition, a positive skin test, is not by any means conclusive evidence that the child is suffering from hilum tuberculosis. As we know, a focus anywhere in the body, no matter how slight, will give us a positive tuberculin skin test providing an allergy has occurred; consequently the positive von Pirquet or positive Mantoux reaction does not identify the focus in the body as being located necessarily in the hilum. It may be that the focus is elsewhere; it may happen also that the focus, even if in the hilum, is very slight and has no relation whatever to the marked enlargement which is clinically or roentgenologically apparent.

The point which the writers wish to make is that in the diagnosis of childhood tuberculosis absolute reliance should not be placed on the individual consideration of clinical findings, x-ray findings or skin tests. If we establish our diagnosis on clinical findings alone, even if supported by positive skin tests, we are apt to be wrong. A diagnosis of tuberculosis in infants and in children is sufficiently delicate and sufficiently difficult, to make it necessary for us to employ every possible diagnostic measure and to employ them not individually but collectively. The clinical

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findings, of course, should be corroborated by biologic tests and x-ray examinations. Furthermore, the x-ray findings should be elaborated further and confirmed by careful fluoroscopic examinations. The finding of a Ghon tubercle or calcified gland in the hilum, of course, is significant.

We have taken special measures recently in the Municipal Tuberculosis Sanitarium to investigate the matter of tuberculosis in childhood. In all, a group of about 400 children are being studied. Some of these children have been exposed to contact with open cases; some show clinical evidence of tuberculosis; some are apparently normal children, not exposed to contact, studied merely as a control group. Periodic biologic tests, serial x-ray examinations and physical examinations are being made.

In connection with the work the question came up as to which skin test was the most reliable and the most practical. A group of 132 children, 66 boys and 66 girls, was set apart in order to get some detailed information on this point. The following tests were used, the von Pirquet, the Moro, the Mantoux and the Dermatubin.

The von Pirquet Test. Owing to its simplicity of application and relative accuracy, the von Pirquet test has been used more than any other biologic test for the determination of tuberculin reactions. The correct reading of the test, however, involves a certain amount of training owing to the fact that the traumatic reaction oftentimes confuses the beginner. Furthermore, children often object to the test because of the slight amount of pain or discomfort connected with it.

In our work we used *Old Tuberculin*—Tuberculin Koch, Lot No. 61, made by Farbwerke vorm Meister Lucius and Bruning, Höchst A.M. and distributed by H. A. Metz Laboratories, New York.

The Moro Test. The Moro test is made through the percutaneous use of Moro's ointment. This ointment is prepared by mixing 50 per cent O. T., with 50 per cent lanolin. The Moro, today, is not used to any great extent for scientific purposes. Its disuse is due largely to the fact that the Moro is generally known to be less sensitive than the von Pirquet.

The preparation used was made by Parke, Davis and Company and marked "Use before July 8, 1931."

The Mantoux Test. The Mantoux, or intracutaneous test, is known to be the most sensitive of the tests and is oftentimes used when the presence of tuberculosis is suspected and the cutaneous test, nevertheless, is negative.

The Mantoux test has the following disadvantages:

1. The solution does not keep long and must be made up, therefore, at intervals of at least several days.

2. The preparation of the solution, the technic of the test itself and the interpretation involve much more skill than do the other methods.

3. The test, at times, may lead to very violent local reactions. In connection with this point it may not be amiss to say that in one case the writers have seen a necrosis of the skin and a very wide area of involvement following the intracutaneous injection of 1/10 m.g. of O.T. Such reactions, however, are the exception.

The Dermatubin Test. The dermatubin test was originated by Professor E. Lowenstein of the Sero-Therapeutic Institute of Vienna. Professor Lowenstein has used the test in a large number of children in that city.

As regards its composition, the dermatubin is a semi-liquid mixture of killed tubercle bacilli in a concentrated glycerin tuberculin filtrate.

In addition to Lowenstein, H. Moro,¹ Mandel,² Melion,³ Kaan,⁴ Kundraditz,⁵ Lamel,⁶ and Fischl,⁷ have used this test on a large number of cases and have found its use highly satisfactory for diagnostic purposes. Professor Lowenstein⁸ and Professors Volk and Lowenfeld⁹ also recommend the use of dermatubin for therapeutic purposes.

The Technic of the Test. The derbatubin test in our series was performed as follows:

The skin over the manubrium sterni was first cleansed with alcohol. Then a drop of the dermatubin, the size of a pin's head, was taken on the glass rod attached to the container, applied to the skin (cleansed as indicated) and rubbed in for about one minute. When the reaction is pos-

1. Moro, H.: Wiener Kl. Wochensch., 1924.

2. Mandel: Wiener Kl. Woch., 1924, Dept. 13.

3. Melion: Wiener Kl. Woch., 1924, No. 31.

4. Kaan: Med. Klinik, 1925, No. 20.

5. Kundraditz: Zeitsch. fur Tuberk. Bd. 42, Dept. 3.

6. Lamel: Mediz. Klinik, 1926, No. 22.

7. Fischl: Zeitsch fur Tuberk. Bd. 42, Dept. 3.

8. Lowenstein: Wiener Klinik, Woch. 1925, No. 5.

9. Volk: Archiv. fur Derm. Bd. 146.

itive, definite, elevated papules appear on the skin over the area treated. One papule is sufficient to establish the reaction. Usually, however, if the patient is infected with tuberculosis many papules appear. If the reaction is intense, the papules become confluent and, in addition, vesicles appear. In no case treated was a general reaction noted following the application of the test. None of the children, of course, complained of any pain or discomfort. The interpretation offers practically no difficulties.

The following is the tabulation of the 109 cases on whom the four tests, Pirquet, Moro, Mantoux and dermatubin, were made. Twenty-three children of the original 132 left before completion of the four tests, so that complete tabulation was possible in only 109 cases.

	Male	Female	Total
All tests negative.....	35	31	66
All tests positive.....	2	20	22
Moro test negative.....			
Pirquet, Mantoux and dermatubin positive	13	5	18
Mantoux positive—			
Pirquet, Moro and dermatubin negative	1	..	1
Dermatubin positive—			
Pirquet, Moro and Mantoux negative .....	..	1	1
Pirquet and Moro negative—			
Dermatubin and Mantoux positive ..	..	1	1
	51	58	109
	Male	Female	Total
Total Positives:			
Pirquet	15	25	40
Moro	2	20	22
Dermatubin	15	27	42
Mantoux	16	26	42

The Mantoux test was done ten days later than the other tests, using 1/10 m.g. of old Koch tuberculin.

It was noted that the Mantoux was positive in only one child in the presence of a negative Pirquet, Moro and dermatubin.

The dermatubin was positive in one case in the presence of a negative Pirquet, Moro and Mantoux.

Summary. 1. These tables show that of the children examined, 37 per cent. were positive to the Pirquet, 20 per cent. were positive to the Moro, 39 per cent. were positive to the Mantoux and 39 per cent. were positive to dermatubin. Consequently, according to these tests made on a comparatively small group, the relative sensitivity of the reagents were in the following order:

Dermatubin and
Mantoux

Pirquet
Moro

2. The dermatubin test is easy of application and offers no difficulty in interpretation. Owing to this fact, it is superior to the Pirquet, in which interpretation is more difficult.

3. Owing to the fact that dermatubin is applied without pain or discomfort, it is of more practical use than the Mantoux test, which requires technical skill in its application, which is accompanied with some pain and which is not devoid of the possibilities of complications.

Conclusion. There are three factors which enter into the physiochemical mechanism of the tuberculin test—potency of the tuberculin used, absorbability and allergy.

1. Potency of the tuberculin used. It is necessary to have tuberculin of the requisite degree of potency. Apparently dermatubin meets this standard.

2. Absorbability. Promotion of adequate absorption through the superficial layers of the dermis is essential. The absorption in the dermatubin test is promoted through the medium of friction, and this method is apparently easy of application and devoid of pain and discomfort.

3. Allergy. The presence of allergy is, of course, essential for the production of a positive reaction.

104 South Michigan Avenue.

BRONCHO-SINUSITIS DISEASE AND
INCIPIENT PULMONARY TUBER-
CULOSIS—THE DIFFEREN-
TIAL DIAGNOSIS*

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I have chosen as my subject broncho-sinusitis disease and incipient pulmonary tuberculosis, with special regard to the differential diagnosis. I have selected this subject especially, as it is a problem that we meet daily in our practice of medicine. It is impossible to disassociate portions of the respiratory tract, one from the other: the sinuses, the pharynx, the trachea, the bronchi, the alveoli, all constitute one cavity,

*From The Child Research Council, University of Colorado, School of Medicine and Hospitals.

very closely connected, and are open from one to the other.

Broncho-sinusitis disease is that condition in which there is an infection more or less of this entire tract, with the sinuses and the bronchi playing the important role. The material I wish to present is from the Child Research Council at the University of Colorado, School of Medicine.

If one analyzes the usual method for the study of medicine, one finds that the ordinary procedure is to select groups of individuals at different ages in order to study the cross-section of the social structure at those particular ages. Such a study leaves great gaps in between which are filled only by the imagination. It is an effort to study the progress of disease from birth to old age by such groups of individuals. If these groups are put together, so that no two groups ever contain the same individuals, then one has a patch work in which it is impossible to find any sequence in the progress of disease from birth to old age. If, on the other hand, a series of examinations are made upon individuals from birth through their span of life and if the record of the course of disease is written as the events occur, the result is that the great gaps of the ordinary group study are filled in and the true history of disease and its incipency is written.

Let us see how that may apply to the thymic cycle. One finds that the thymus begins to develop at birth and grows very rapidly until one year of age. Then there is an involution which takes place, which at thirty-six or thirty-eight months of age brings the thymus back again to a small thymus. Such a cycle has been and is lost in the ordinary study of medicine, due to the great gaps between the groups that are studied.

Let us consider a roentgenogram of the nasal accessory sinuses at four years, ten months of age, showing definite infection of one antrum and a lesser amount of infection in the ethmoids. It is impossible to tell from such an examination how long this individual has carried this infection. If a series of examinations and roentgenograms were available from birth upon this individual, it would be possible to study the beginning of that disease. Such a series is available and reveals that at

nineteen months all the sinuses were involved on the left, a little less on the right. At three years there was considerable clearing with the ethmoids and the antra showing more clearly. At three years, three months the right antrum is clear, the left one is full of pus as well as involvement of the ethmoids. At three years, six months, the right antrum is lightly involved. At four years, two months, the antra are clearer but show definite involvement. At four years, five months, a similar condition exists. Such a series illustrates not only the beginning of the infection but its progress through life.

Let us consider the anatomy of the lung and mediastinum. The connective tissue which comes from the mediastinum surrounds the bronchi and the great vessels as they enter the root of the lung. This connective tissue is then carried into each lobe from the root, along the arteries and bronchi, forming a definite connective tissue framework. Such an artery and bronchus with their supportive connective tissue constitute the linear markings extending outward from the root of either lung as seen upon a roentgenogram. A cross-section of such a linear marking reveals arteries and bronchi bound together by connective tissue and surrounded by air cells. It is the surrounding of such structures by the air cells that enables one to show them upon the roentgen film.

The lymphatics of the lungs consist of small lymph channels in the parenchyma which lead to nodes at the smallest bifurcation of the bronchi. These channels lead to other nodes along the arteries and bronchi and then to the regional nodes at the root of the lungs. These nodes, in turn, communicate with the tracheo-bronchial glands of the mediastinum. If one has an infection in the interior of the lung, it passes to the nearest lymph node and will then be carried to the regional lymph nodes at the root of the lung. A study of these regional lymph nodes will inform one as to the location in the parenchyma and often as to the age of the lesion.

Canti¹, in his review of the pathological work of Ghon, illustrates this type of infection by the islands of Ghon in the parenchyma which in turn infect the regional lymph glands at the roots of the lung and the mediastinum. He states an involvement in the interior of the lung will cause

enlargement and infection of the regional glands at the roots.

The roentgenogram, in a typical disease of the chest, portrays a roentgen syndrome which is typical of that disease. For example a roentgenogram showing a mediastinal involvement of metastatic cancer will not be confused with a heart case. A primary carcinoma will not be confused with a case of pneumoconiosis. In each case the pathology is typical and the roentgenogram portrays that pathology to us in its typical manner. In this way the roentgenogram may be utilized to study not only the pathology of the living but the physiology as well.

A normal chest, when portrayed to us by the roentgenogram, reveals the heart and its vessels, the bony structures, the roots of the lung with the arteries and the bronchi extending out from the roots, composing the linear marking. The latter extend into the parenchyma and break up into small divisions. At no time, unless there has been infection or dust inhalations are there nodes visible along these bronchi or an undue amount of connective tissue.

A case of typical tuberculosis reveals congestive mottlings or nodes in the parenchyma when portrayed by the roentgenogram which are in turn connected by strands of fibrous tissue and other small nodes with the regional glands at the root of the lungs. There is a certain amount of extra fibrous tissue laid down, but the typical finding is that of a chain of nodes from the parenchyma to the regional glands, indicating that the tubercle germ has passed from the air cells into the lymph channels, where they set up the typical reaction of fibrosis. This inflammation, at first congestive, may become either fibrous, necrotic or calcified.

A roentgenogram of a typical case of broncho-sinusitis disease reveals a mass of fibrous tissue at either root surrounding bronchi, arteries and veins. Few regional nodes are observed. In advanced cases this increased fibrosis extends out along the arteries and bronchi into the interior of the lungs. The involvement is bilateral and without nodes. The air cells remain free from congestion. In addition there is definite infection of the nasal accessory sinuses. Such pathology of the lungs would indicate that the infection has involved the mucous membrane of the bronchi and secondarily their walls and sur-

rounding structures setting up an inflammatory reaction. As there is considerable drainage for this infection by way of the air passages the lymph glands are only slightly enlarged in the subacute or chronic cases.

Let us now analyze and discuss further the typical tuberculosis chest. If necropsied lungs are inflated and radiographed, one finds the arteries and the bronchi leading in to the parenchyma showing very distinctly. If there is no pathology, one finds that while he can see bifurcations of the arteries, there are no great number of nodes. In a previous paper I spoke of the possibility (and it actually happened) of the arteries producing nodes. The number of these, however, is not great. In some cases it is difficult to say whether a node is due to lymphatic tissue and a tubercular reaction or whether it is due to an artery. Some writers have recently stated that most of such nodes are due to arteries. If such is the case, then the arteries of an inflated lung when injected with an opaque material and roentgenographed should show a great many nodes. But this is not found to be true. The arteries and the bifurcation may be seen broader at the bifurcation than they are either above or below, but unless one gets them on end or at a peculiar angle nodes are not seen.

It is possible to study the earliest tuberculous reaction in the chest by the roentgen films as well as by all the various diagnostic methods known to medicine. Let us consider a roentgenograph of a child at five years of age showing a typical pulmonary lesion of tuberculosis. Nodes are seen at the right hilum at the bifurcation of the bronchi, extending into the right upper, with a definite tuberculous lesion in the right apex. Let us go back in the series and see when this pathology was laid down. This child at two years of age showed the first reaction in the parenchyma of the lung. There was congestion extending along the artery and bronchus into the regional glands at the bifurcation of the arteries and bronchi in the outer portion of the root of the lung. Subsequent films have enabled us to study this involvement and observe the laying down of fibrous tissues and calcareous deposits in the nodes.

Let us now consider and discuss some of the problems in regard to broncho-sinusitis disease. A child at four and one-half months of age had

complete involvement of all the sinuses. It was sent in for examination because of thymic stridor. A radiograph of the chest revealed that at four and one-half months of age there was some congestion at the bifurcation of the bronchi extending into each lung. Likewise there was a large thymus. But a large thymus should exist in this child at four and one-half months of age if it is a well-nourished husky child. The nasal accessory sinuses also showed infection. With involvement of the sinuses and this congestion of the root of the lung, the first consideration should be to relieve that infection by the treatment of the sinuses. In this case we were able to relieve the thymic stridor with nothing more than treatment directed toward the sinuses.

Another case of a child with asthma at 3 years of age has been observed. It was found that before and during the attacks of asthma the sinuses filled with pus and there was an increased congestion at the roots of the lungs as revealed by the roentgenogram. Treatment of the sinuses with their clearing relieved the attack. The roentgenograms showed the typical changes of broncho-sinusitis disease at the roots of both lungs.

A child six years and six months of age has been studied clinically and with roentgenograms of the lungs and sinuses since birth. At four months of age there was evidence on the roentgenogram of infection of the bronchi with infection of the nasal accessory sinuses. This pathology steadily increased until at three years of age there was a definite broncho-sinusitis disease present. This condition has persisted since treatment has been refused. Clinically, such a case is better nourished, has less temperature, and is less nervous than a tuberculous child, but may have more cough and more "colds."

What, then, is the course of disease through the span of life? Certainly the adult pathology is laid down very early, sometimes within the first few months. Occasionally this pathology, by some stress, is flared up so that there is a mild tuberculosis in the first two or three years of life. Again the individual may grow to adult life with only a small lesion in one apex. Then, when the stress of life is thrown upon that individual, advanced pulmonary tuberculosis develops.

In broncho-sinusitis disease, one may find advanced bronchiectasis at four and one-half years

of age, dating back definitely to one and one-half years of age, or again it may be bronchitis in adult life, or it may be a frank bronchiectasis or asthma in adult life. In either case the pathology has been laid down in infancy. In a case of bronchitis the infection may extend into the parenchymal structure with inflammation of the interstitial septa so that there is an interstitial fibrosis with terrible crippling of the patient.

In conclusion, I would make a plea for a wider knowledge of broncho-sinusitis disease. It would seem that it is a definite disease with a typical roentgen syndrome of pathology in the sinuses and pathology in the bronchi. Clinically, such cases are usually well nourished, have only slight temperature, some cough, which may be variable, a tendency to asthmatic symptoms or bronchitis, a tendency to discharge from the nose—a pathology which is progressive. In the beginning it may be the so-called thymic stridor or it may be the mucous rattling that one finds after birth.

Unless this pathology is recognized and the infection cleared it progresses into frank bronchitis, asthma, bronchiectasis, etc. The tuberculous infection is laid down very early, and again it may either kill or maim the individual, depending upon the stress that is thrown upon that individual during his span of life. We need a broader knowledge of these conditions. We need more knowledge as to the influence that broncho-sinusitis disease may play in tuberculosis. It is a mistake for any society to advertise among the laity the symptoms of tuberculosis and not speak of the symptoms of broncho-sinusitis disease.

227 Sixteenth Street.

DISCUSSION

Dr. Wasson: Answering Dr. Swanberg, I think it is possible to develop our roentgen technique to a point where we can recognize the ethmoids and antra at birth. They are very small. The antra are not much larger than the infra-orbital foramen. They grow very rapidly so that at seven months they are triangular in shape and about twice their birth size. The sphenoidal sinus begins to enter the sphenoid bone at about three years of age, but not until about five years of age can we show it roentgenographically. The frontal sinuses begin somewhere about four years of age, as offshoots from the ethmoids and they grow fairly rapidly and reach their

development around sixteen years of age. All of the sinuses grow from birth to reach their mature development at about sixteen to nineteen years of age.

The mastoids at birth are a cavity, the same as the antra. They have no septa in the ordinary case, although I think as our experience develops we will find there are some septa in the mastoids at birth. It is possible to show infection of the mastoid in the same way as one shows infections in the antrum.

You observed in one of the series I showed the sinuses at 3 years of age, before the attack, during the attack and after the attack. The antra were clear after the attack. I think it is beginning to be realized that drainage of the pus from the sinuses will frequently leave the sinuses clear, as portrayed by the roentgenogram, provided there is not too much pathology laid down in the mucous membrane or in the bone. I think it is possible to do a great deal more in mastoiditis in children than we have done in the past.

I believe the key to the situation is clear films and films taken fast enough to get away from the motion of the child. High speed technique in roentgenology has a definite place with the infant because the infant will not remain quiet. With the adult it is a different problem.

I think if you find you have considerable infection of the ethmoids and antrum on one side and the other side is clear, that your mastoid will be involved on that side which has the antrum and ethmoid involvement. I would recommend that if you are in doubt as to whether the mastoid is involved, roentgenograph the sinuses. They may be the key to the diagnosis.

In regard to Dr. Archibald's question as to the treatment of the lung condition. If we will recognize these cases early enough it is possible by the treatment of the sinuses and tonsils and pharynx and the bronchi to stop the infection and to remove the pathology at the roots of the lung. If we fail and the child is five or six years of age we have lost our opportunity. It is almost ridiculous to try to treat sinuses in an adult who has had infection for forty years. We will get occasional results but the great majority of these have had that pathology laid down in infancy. We cannot remove calcareous glands as a result of tuberculosis, neither can we re-

move fibrosis at the root of the lungs. But if the diagnosis can be had early in life, if the radiologists will learn to roentgenograph young children when they have any clinical evidence of broncho-sinusitis disease, and if the oto-laryngologists will learn how to treat them, then many cases of asthma, bronchitis and bronchiectasis will be prevented in adult life.

¹Primary Pulmonary Tuberculosis in Children. Quarterly Journal of Medicine, Vol. 13, 1919-1920. R. G. Canti, M. D.

EXSTROPHY OF THE BLADDER*

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Exstrophy of the bladder is one of the most troublesome deformities to which man is heir. These patients are a burden to themselves and to society and are barred from many of the normal activities of life.

Fortunately this condition is extremely rare, occurring once in 50,000 births, according to Neudorfer, and four times in 116,500 births, according to Sichel and Henon.

Exstrophy of the bladder apparently belongs to a group of closely related conditions in which part of the lower genito-urinary tract fails to develop in a normal manner. These range from simple epispadias to the more complicated types of exstrophy, combined with fistulous openings into the intestinal tract.

In the vast majority of these cases the entire anterior wall of the bladder is missing together with the symphysis and very frequently the umbilical cord is adherent to the bladder mass.

Theories of Causation. There are any number of theories as to the etiology of this condition; the most important of these being the mechanical, the pathological and that of arrested development.

The first or mechanical theory, attempts to explain this condition on the basis of increased pressure in the bladder resulting in a rupture of the outer bladder wall and the adjacent abdominal wall.

The pathological theory, as advocated by Velpeau and Phillips, attributes this defect in the fetal tissues to inflammatory or degenerative

*Read before the Section on Surgery, Illinois State Medical Society, Peoria, May 21, 1929.

processes due to specific diseases, such as syphilis.

Many investigators have observed the fact that a great number of malformations are coexistent, such as cleft palate and hare-lip. Forster in 1865, Champneys in 1877, Emrys-Roberts and Paterson in 1906 and T. B. Johnson in 1913 have ascribed arrested development as a causative factor in this type of deformity.

Methods of Treatment. There have probably been developed as many methods of treatment as there are surgeons who have attacked this problem.

The earliest method as advocated by Roux (as far back as 1852) embraced the use of plastic skin coverings for closure of the bladder. These methods were unsatisfactory because they developed an uncontrolled tank which became septic and also did not relieve the urinary extravasation.

The next step was to attempt to bring the incomplete pubic arches together in an attempt to close the anterior bladder wall. This likewise proved unsatisfactory, but was extensively used by Passavant, Koch, König, Trendelenburg and many others.

Attempts were then made to utilize portions of the intestinal tract as a tank to serve as a bladder. Various portions of the bowel, such as a loop of the ileum, a portion of the cecum or sigmoid, were isolated and the ureters transplanted into them, the bladder removed, and the defect in the abdominal wall closed.

While these methods had their advantages there still remained the ever present danger of an ascending renal involvement.

In recent years more extensive studies of the various natural ducts in the system have been made and it had become evident that nature attempts to empty these secreting organs by indirection. The salivary duct, the common duct of the liver, the pancreatic duct and the normal ureters pass through the serous and muscular wall of the cavity into which they empty, continuing for some distance between these layers and the mucosa before emptying into the cavity itself. Internal pressure closes these ducts and prevents dilatation and ascending infection. The secret of successful transplantation of the ureters into the bowel is by following this method.

Maydl first attempted to utilize this natural means in these cases. He excised the base of the bladder with the ureters intact and transplanted the reversed segment into the wall of the sigmoid or rectum.

Coffy's Modification. Coffy modified this method by severing the ureters and tunneling them for some distance between the muscular and mucous layers of the bowel before allowing them to empty into its lumen. This produced a valve-like arrangement which he believed would serve to prevent dilatation and ascending renal infection.

Results. As had been said before, the various types of plastic operations were unsatisfactory for two reasons. First, they did not prevent extravasation of urine on the skin and clothing, which is the principal complaint of these patients and second, did not materially lower mortality from ascending infection. Trouble also arose from the uncontrolled bladder becoming septic. This may also be said of various methods of forming a new bladder by utilization of portions of the intestinal tract.

At the present time it would seem that the Maydl operation and Coffy's modification thereof are the procedures of choice. Mayo and Walter report a series of thirty-five cases from 1912 to 1921. These patients varied from three years to thirty years in age and the majority were in the second or third decade of life. In twenty-eight of these cases both ureters were transplanted, one dying from peritonitis (operative mortality of 3.5 per cent). Twenty-three of the remaining twenty-seven were kept track of until 1921. In many of these cases two, three and, in one case, four stage operations were done. Four patients of the series, all with good operative results, died within three years after the operation; one from pulmonary tuberculosis, one from typhoid fever, one from general carcinomatosis originating from the chronically irritated bladder mucosa and one from pneumonia. Seventeen of the twenty-eight patients returned for removal of the bladder and when last heard from were apparently living normal happy lives. Statistics show that 50 per cent. of all persons with this unfortunate developmental defect die, if unrelieved, in ten years and 66 per cent. by the twentieth year.

CONCLUSIONS

From the foregoing review of the literature dealing with the various methods of treatment of exstrophy of the bladder we find:

1. It is one of the most serious of malformations.

2. Approximately 50 per cent. of those suffering from it die before 10 years of age and the vast majority before 40.

3. Of the various operations of choice, Mady's with Coffy's modifications, seems to offer greater advantages and more certain success. The normal and indirect method of emptying the ureters is maintained; the dangers of ascending urinary infection and dilatation of the ureters is greatly minimized and a sometimes remarkable control of the passage of urine through the rectum is obtained. Patients very frequently are able to retain the urine in the rectum for a period of two to five hours.

4. Exstrophy of the bladder when untreated, aside from high mortality, renders the individual a burden to himself and to those upon whom he is dependent because of this infirmity. Although the prognosis in these cases is for the most part doubtful, surgical treatment should be instituted.

CASE REPORT

History. Case of Baby R—, female, born August 2, 1929; weight 6 lbs. 5 oz.; a normal delivery, no instruments. The mother age 23, primipara. This case was seen some few days after birth, at which time there was exstrophy of the bladder present. When the child was brought back to the hospital for treatment, about 6 weeks after birth, the following conditions were present:

The exstrophy of the bladder appeared as a mass in the suprapubic region but was independent of and not attached to the cord structures. The mass consisted of the posterior bladder wall which had herniated through the defect in the outer walls of the bladder and abdomen. On the outer surface of this mass could be seen the trigone and ureteral orifices. Urine might be seen dribbling from these. The exposed wall of the bladder was somewhat hyperemic, slightly dusky in color, but otherwise apparently normal. There were no evidences of infection in or about the bladder.

Directly below the bladder was a conical shaped mass, somewhat lighter in color and having a small round opening at the apex of the cone. This mass was the uterus, which had descended from the pelvis and was protruding through the vaginal orifice, having prolapsed the vagina in its descent. This descensus was not present at birth but developed due to weakening of the structures in and about the vaginal opening. A dis-

tinct impulse was felt in this uterus when the child cried or strained. The uterus was replacable but could not be retained in position as it slipped back out whenever the child cried.

The urethra, the external urethral meatus and the clitoris were absent. The labia minora were present along the lateral edge of the vaginal opening and were widely separated throughout their course. The labia majora were present but were also widely separated. The perineal structures were apparently intact but were somewhat lax along the anterior edge. There were apparently no traces of the hymen.

General examination of the child indicated that it was apparently normal in all other respects. It had shown normal gain in weight, after the first week. Its bowel movements were apparently normal, although at times there seemed to be some difficulty in evacuation, as was evidenced by the straining of the child when attempting to defecate. The Wassermann was negative.

X-Ray Examination. X-ray examination revealed the fact that the entire pubic bones and symphysis were missing, there being an opening in the anterior portion of the pelvic girdle of approximately 7 cm. in width. The iliac and sacral bones as well as the coccyx, were apparently normal. An attempt was made to photograph the rectum and sigmoid colon by means of a barium enema. This however, was not successful due to the fact that the enema was repeatedly expelled. A small red rubber catheter was inserted through the anus and up into the rectum for a distance of about 10 or 12 cm. This photographed nicely and indicated that the anus, rectum and sigmoid were apparently normal in structure.

Treatment. It was decided to employ a somewhat radical operative treatment of this condition. There were two reasons for this; because of the fact that *E. coli communis* is comparatively rare in the intestinal flora of infants, we believed that by transplanting the ureters at this early date the child had a better chance to acquire an immunity to these organisms when their number and virulence should be at a minimum.

The second reason for attempting so radical a procedure at this time was that we might avoid ascending infection and should our operation be successful the child would have a longer period in which to gain control over the sphincter ani muscles and also to acquire a greater tolerance to the presence of urine in the rectum.

There was some discussion as to the method of operation, but in view of our experimental work on dogs in which we found that Coffy's modification of Maydl's method was the best, it was decided to do an operation of this type. The question then arose, of the advisability of doing a one or two stage operation so, rather than expose the child to the dangers of an ether pneumonia on two occasions, it was finally decided to transplant both ureters and remove the bladder at the same time. The following technic was used.

The child was lightly anesthetized with ether and

the usual aseptic precautions were taken as to skin and field of operation.

The skin and abdominal wall were incised just about and above the middle of the protruding bladder mass. Here a constricting ring of fibrous tissue, surrounding the base of the bladder, was encountered. This was loosened and the bladder freed from its attachments.

A filiform catheter was then inserted through the right ureteral orifice and upwards towards the kidney for a distance of about 5 cm. and retained in place by digital pressure. The bladder mass was then divided in its middle line and the right ureter dissected out, using the catheter as a guide. A portion of the bladder wall was left about the opening of the ureter to give some material for suturing. This same procedure was then followed for the left ureter and the remaining portion of the bladder entirely excised.

An acorn shaped metal bougie of about No. 20 French was then passed through the anal ring and into the rectum. Pressure on this caused the rectum to protrude through the incision in the abdomen and served as a guide. Inasmuch as the layers of the bowel in a child as young as this one, are extremely delicate and not well defined, it was found impractical to follow Coffy's technic throughout, so the following procedure was adopted.

A small opening was made through the three layers of the rectum along its right margin and an end to side uretero-rectal anastomosis performed. The mass of tissue left about the ureteral opening was allowed to protrude into the bowel in order to allow for any shrinkage of the ureter.

The left ureter was similarly treated, although at a slightly higher level along the left edge of the rectum so that any constriction due to scar tissue would not be so apt to produce an obstruction of the bowel. The bougie was then removed and the rectum replaced.

The edges of the opening in the abdominal walls were freshened and closed with continuous and interrupted catgut sutures. The uterus was replaced and the vaginal opening narrowed and the labia minora brought together just above the newly formed introitus. The skin was then closed with interrupted catgut and silkworm sutures and a small dressing tied to the top and bottom sutures in order to retain it in place. A small gauze wick was inserted in the rectum and changed at frequent intervals during the following 72 hours.

After Care. For the first 48 hours the child was given little nourishment, except water. Gradually feedings were resumed, the child being put to the breast every two hours and at the same time moderately large doses of sodium bicarbonate (10 grs. every 3 hrs.) were given to keep the urine alkaline. Small drop doses of whisky were given from time to time as needed.

Daily urine analyses were made, but showed no albumin. Daily white counts were taken and about the 5th day following the operation the white count being 5,000 it was deemed advisable to administer 4 cc. of whole blood intra-muscularly, using the father as a donor. The following day the white count had risen to

12,500 and the child showed a perceptible improvement from then on. The white count, when the child was discharged from the hospital, being 7,850.

As has been stated before, a small gauze wick was placed in the rectum and repeatedly changed in the first 72 hours. Attempts had been made to retain a catheter in the rectum, but this was not successful. From the 4th day on the anus was gently dilated each morning and the accumulated matter allowed to flow out.

The character of the material evacuated from the bowel consisted for the first 3 or 4 days of urine mixed with feces. About the 4th day a clearer urine began to be evacuated, mixed with some mucus. By the time the child was discharged from the hospital, almost clear urine was being expelled independent of the stools.

Course. The temperature ran from 99.8 to 102.8 F. per axilla coming down to normal by the 9th day after the operation.

The child lost some weight during the first week, weight at operation being 7 lbs. and 8 oz., but at the time of her discharge from the hospital she weighed 8 lbs. and 13 oz.

The incision healed in the usual length of time, the stitches were removed the 7th or 8th day and good closure of the abdomen was obtained. Those stitches holding the uterus back in place sloughed out allowing the prolapse to reoccur and at the present writing the uterus is still prolapsed, although it is much easier to replace than before the operation. A belt was obtained and is utilized in an attempt to bring the ends of the symphysis close together. This seems to be succeeding.

At present the child is approximately 9½ months old, weighs 16 lbs. and 9 oz., has 6 teeth and aside from some slowness in sitting is a healthy baby. The urine is voided on an average of about once an hour in amounts varying from ½ to 2 oz. She has two bowel movements a day which are well formed and normal in color and consistency and independent of urinations.

CONCLUSIONS

Although this one case is of course not enough to lay down any definite rules as to procedure, we may suggest the following:

Early surgical intervention has much to recommend it for the following reasons:

1. Immunity to ascending infection may possibly be more easily acquired.
2. Tolerance of the rectal mucosa to urine should be more easily established.
3. An earlier control over the sphincter and muscles may result.
4. Infection of the bladder mass is avoided.
5. Treatments designed to bring the ends of the symphysis together can be started earlier and with more chance of success.

PUBLIC HEALTH PROBLEMS

E. A. EDLEN, A. B., B. Sc., M. D.

MOLINE, ILL.

There is undoubtedly, no phase of the life and well being of the human family of greater importance than health. Since time immemorial it has been the chief asset in all walks of life and prized higher than riches and honor. Still, through neglect, abuse, misfortune and pathogenic organisms gaining lodgment in the human system, deviation and destruction of health is set about. Any agent, causing deterioration of perfect health, is an enemy, not only to the person involved, but also to the nation as a whole, because the nation consists of an aggregation of individuals interdependent of one another.

Especially since the beginning of this century is this assertion true, because we live in an era of easy communication and of intermingling with people, not only of the same city or village, but of the whole world. Time and space are almost negligible now in comparison to those of former periods. Thus certain diseases are easily spread throughout great areas within a short time, causing immense damage to health and destruction of life.

Less than half a century ago very little concerted action by the government or any of its subdivisions was taken to abrogate or eradicate diseases with the result of wholesale destruction of life and human well-being.

Through the advice and the untired effort of the medical profession, as well as by the detection of the microbic source of many diseases, a new era with regard to health preservation was inaugurated, and the authorities of the government began to appreciate the necessity of safeguarding the public health. Many laws and rules were promulgated, and organized endeavor was applied for the successful war against the inroads of disease. Public health activities began to be appreciated by the laity, mainly through the advice and precepts of the medical profession, who have always endeavored, unselfishly, to work for the betterment and bodily and mental wellbeing of the human family.

The medical profession as a whole concerns itself with the cure and eradication of disease, while the department of public health is inter-

ested in and is endeavoring to reach the goal of human bodily perfection by prevention of disease and preservation of health; thus aiming at longevity and improvement of the race.

Many public health problems are encountered and only strict observance of rules and regulations, as well as intimate knowledge of their solution, will avail in the majority of cases. It requires patience, tact, publicity, coordination and perseverance to make the people in general understand the necessity for taking certain measures of precaution in order to prevent disease and maintain good health. The public must be sold on prevention of disease and preservation of health before any wholesale good can be accomplished along this line of procedure.

Many diseases are entirely preventable, and in this enlightened era it is almost unforgivable and unworthy of human intelligence that such diseases are still allowed to exist. Diphtheria, which has no right to exist, is still causing havoc among the children, although we have a sure preventive measure. Last year more than two hundred children were offered upon the altar of the Moloch of this disease in Illinois. Until the people are thoroughly sold on immunization, very little can be accomplished in the way of eradication, and everyone seems to be satisfied with the existing condition, until his own child is taken away from their midst through this scourge.

In Illinois we had more than two thousand cases of smallpox last year with many deaths and great pecuniary loss. Five hundred thousand dollars would not cover this on account of loss of time and money. All this could have been avoided by the easy and cheap prevention by vaccination.

Scarlet fever is another disease which we hope will be entirely preventable in the near future by immunization.

Yellow fever and cholera are now extinct in this country, thanks to the detection of the causes and the scientific application of measures for their eradication.

Another public health problem is of vital importance to the welfare of especially the young adults, namely, venereal diseases. They are afflictions which everyone, who has been unfortunate in acquiring them, is ashamed of and tries to hide as long as possible, thus not only causing

*Read before the Lutheran Hospital Staff, Moline, Ill., May, 1929.

chronic inroads in his own system through neglect or insufficient treatment, but is liable to communicate the same to innocent parties on account of ignorance or neglect to take all necessary precautions. Since the world war great efforts have been made through general publicity of their dangers to the future welfare of the victim unless treated vigorously and thoroughly from their incipency until cure is accomplished.

Another problem of paramount importance is the preservation of health and wellbeing of the middle-aged person. We have been endeavoring with some success to install an idea in the public mind that it is a laudable undertaking to prevent disease and preserve the health of the young, but when we begin to present to the middle-aged that the same rule should apply to them, who are the most important individuals of the nation, as not only breadwinners, but as having gained experience and knowledge in their chosen vocation, and are greatly needed for the stability and strength and in constituting the bulwark of the nation, we have not advanced further than to the first milestone.

Of late years some endeavor has been made to reach these people in order to help them to preserve their health and prevent their early decay by taking an inventory of their systemic condition, by preaching and urging periodical examination in order to find out what may be amiss or may be liable to cause deviation from their general health and customary well-being. Periodical health examinations should continue through the whole span of life. Through this procedure many diseases may be detected at their incipency and before the period of incurability has arrived. Concerted action by the medical fraternity, as well as public health activities, will in the near future bear its fruit. Widespread general public information of the dangers that may result by dilatory tactics of deferring the inventory of his own physical status must be spread and given publicity in order to achieve desirable results.

It is true that the average span of life has been doubled in the last one hundred and fifty years, but that has been reached mainly through the preservation of the infant and very young and through our increased knowledge in treatment and prevention of contagious diseases. We now have a life expectancy of sixty years, while fifty years ago it was about forty.

In order to be able to gain another ten years to our life expectancy we have to educate the individual of middle age to achieve this goal. It can be done by perseverance in the teaching and urging health preservation of the individual as well as the whole nation.

WHOOPING COUGH—A PLEA FOR EARLIER DIAGNOSIS*

LOUIS W. SAUER, M. D.

EVANSTON, ILLINOIS

The United States Mortality Statistics, just published for 1925, shows that in the 42 registration States about 7,000 deaths were due to pertussis. There were only a thousand more deaths from diphtheria; scarlet fever caused less than half as many deaths; and smallpox about one-tenth as many. Unlike any other contagious diseases it is fatal only for infants and young children. Fifty-eight per cent of these 7,000 deaths were in infants less than 12 months old, and 83 per cent were in children under two years of age. Pertussis is, therefore, a serious and not infrequently fatal disease for infants and young children.

The site of the lesion has interested investigators for many years. Pertussis pathology has heretofore been based on fatal cases in which there are usually found areas of bronchopneumonia. Mallory and Honor¹, in 1912, found many pertussis bacilli between and upon the cilia of the trachea and bronchi. Although this does not constitute a lesion in the strict sense most of the text-books in pathology and pediatrics have accepted it as the actual location of the disease. Pospischill², on the contrary, has long maintained that pertussis is anchored in the lungs because the most important clinical manifestations are found there. Years ago he described unique râles which he considered characteristic and an important aid in the early diagnosis of the disease. Feyrter,³ in a recent monograph on the pathology of the lungs in pertussis, concluded that pertussis bronchopneumonia has its origin in pertussis bronchiolitis and peribronchiolitis. L. Smith⁴ recently found the pertussis bacillus in the lungs in pure culture in 7 of 8 fatal cases. Our recent work on experimental pertussis in young monkeys⁵ gave us an exceptional opportunity to study the bac-

*Read before Evanston Branch of the Illinois State Medical Society, November 14, 1929.

teriology and pathology not only in early pertussis bronchopneumonia but also in benign pertussis. Miss Hambrecht and I have just completed a study of the regional bacteriology and histopathology of the larynx, trachea, bronchial tree and alveolar parenchyma of animals that were recovering from the paroxysmal cough; also of animals that had developed pertussis bronchopneumonia. The respiratory tracts of a few infants who died of pertussis bronchopneumonia were likewise studied. Search for the region with the most profound injury in uncomplicated whooping cough invariably led to the finer bronchi and bronchioles.⁶ We are led to believe that the finer bronchi and bronchioles are the true seat of whooping cough. Endobronchitis and peribronchitis are more pronounced in the benign type of the disease, whereas endobronchiolitis and peribronchiolitis predominate when bronchopneumonia is present. The course to the alveoli could thus be traced. Pertussis bacilli were found in pure culture upon and between the cilia of bronchi and bronchioles in the animals which were recovering. In experimental and in human pertussis bronchopneumonia the bacilli were found also in the alveoli. This substantiates Professor Pospischill's predictions and Dr. Feyrter's findings in fatal pertussis bronchopneumonia! likewise, Smith's bacteriological findings in fatal pertussis. Furthermore, we found that in benign experimental pertussis the lesion is in the bronchial tree of the lung, not in the trachea, as Mallory maintained. Probably in most instances the areas of bronchopneumonia in pertussis are due to the pertussis bacillus itself, not to secondary invaders as has been held until very recently.

In regard to the use of pertussis vaccine in the treatment of the disease, no two investigators agree. Very few of the reports of vaccine adherents have clinical observations on unvaccinated control cases. Reports based on institutional children over two or three years of age are very misleading. The potency, age and dosage of the vaccines vary. The stage of the disease when the injections are given, the interval between injections and the number of injections vary according to the whim of the clinician. A few stress the value of vaccine as foreign protein. One clinician got better results with sterile milk injections than with pertussis

vaccine. Needless to reiterate, the body in the throes of pertussis is already overwhelmed with the proteins and toxin of the Bordet bacillus. Most authorities do not believe pertussis vaccine to possess curative powers. After I had used commercial pertussis vaccine for a number of years without convincing results, a more potent and freshly prepared pertussis vaccine furnished by the New York Bureau of Laboratories was used in several hundred cases without better effect. In 1926 Miss Hambrecht began to prepare a very potent vaccine from freshly isolated strains. This was administered to 100 pertussis cases as directed by Madsen⁷ of Copenhagen (3, 5, 10 billion bacilli in 3 day intervals). In 100 unvaccinated, control cases the disease did not run a more severe course. Indeed, some of the unvaccinated institutional infants in our control series had the disease in a very mild form. For every case where the symptoms appeared alleviated by vaccine we had at least one in which the symptoms seemed to have been intensified by the injections. The most severe and prolonged pertussis without bronchopneumonia occurred in a boy of 5 years who had received 12 injections of a commercial pertussis vaccine. Our conclusions are that pertussis vaccine is of no value when the disease is under way.⁸ Up to the present time no report has appeared on the use of pertussis vaccine as a prophylactic measure, i. e., its administration before exposure to the disease, as is done in typhoid fever prophylaxis. To give the vaccine after a child has been presumably exposed, but before symptoms develop is not true prophylaxis. To credit the nondevelopment of the disease to the injection of vaccine after presumable exposure is very misleading. We have reliable data in a few instances where the older child in a family had the disease and the younger, susceptible one did not contract it, although definitely exposed and not inoculated with vaccine. For a susceptible child to come near a child with whooping cough does not necessarily imply transmission of the disease.

All students of the pertussis problem agree that the only reliable prevention of pertussis epidemics is early diagnosis and rigid quarantine during the early weeks of the disease. White and differential blood counts are valuable diagnostic aids, but early in the disease these blood changes may still be absent. To exclude per-

tussis on the basis of one low lymphocyte count is hazardous. The cough-plate method, first described by Chievtiz and Meyer⁹ is a simple and valuable early diagnostic aid. It, too, has several shortcomings. A negative cough-plate need not exclude pertussis. The chief value of the cough-plate is in early diagnosis, i. e., during the catarrhal period of the disease when the bacilli are expelled in the greatest numbers. It is during the catarrhal period that the patient is the greatest menace. Clinicians had long known this, but the cough-plate brings scientific proof why this is so. During the past few years we have used this method of diagnosis in 175 successive cases of whooping cough with the following results:

Catarrhal Period—53 cases; positive in 52—98 per cent. positive.

Paroxysmal Period (first 4 weeks)—86 cases; positive in 61—70 per cent. positive.

Decline Period (late paroxysmal)—36 cases; all negative.

Plates must be properly prepared, fresh, well exposed and incubated soon after exposure. Examination for the Bordet bacillus should be made 3 to 5 days after exposure of the plate. (Demonstration of cough-plates showing colonies of *B. pertussis*.) In Copenhagen the physician reports suspicious coughs to the health department. The health department exposes the plate and reports to the physician within 5 days. Since pertussis therapy is today of little avail, the most logical procedure is to limit the number of exposures by early diagnosis and quarantine. By cooperation of physician and health department, the number of cases can be limited by earlier quarantine. The result will be fewer infants ill with the disease, and this should very materially reduce the number of deaths.

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THE TECHNIQUE OF THE INTRATRACHEAL INJECTION OF IODIZED OIL

JEROME R. HEAD, M. D.

CHICAGO

Contrast bronchography with iodized oil has taken its place as a valuable aid in the diagnosis of obscure bronchial and pulmonary conditions. Doubts as to the safety of the procedure, which have prevented many from employing it, have been for the most part dispelled by accumulating experience, until it is now considered as safe and valuable a procedure as are the bismuth meal or pyelography.

For these reasons and because it has come to be believed that injection of the oil is difficult, it has seemed worth while to describe in detail the extremely simple technique which I have used successfully in several hundreds of cases.

This is a modification of the transglottic method devised by Rosenthal and popularized in this country by Forestier. This was a rather elaborate procedure calling for preliminary anesthetization of the trachea by injection of novocaine through the cricothyroid membrane and then the insertion of a small trochar and cannula curved in the shape of a tracheotomy tube through which the oil was injected by means of a screw syringe. The injection of novocaine into the trachea evoked always a severe paroxysm of coughing, which was by far the most disagreeable part of the operation. Insertion of the curved trochar required a small skin incision and was relatively difficult: and it was necessary to have an assistant hold the needle in position while the screw syringe was being manipulated.

Experience has shown that anesthetization of the trachea is unnecessary and that the oil, if well heated, can be injected by an ordinary Luer or Record syringe through a one inch eighteen or twenty gauge needle.

The procedure is as follows: the oil, usually 20 c.c. is poured into the syringe and heated by revolving the syringe over a bunsen or alcohol burner. With a little experience one can tell by watching the oil when its viscosity is sufficiently decreased. The needle is then fitted to the syringe. The patient is asked to refrain from coughing or swallowing while the injection is being made. The cricoid cartilage is located with the forefinger of the left hand and the needle inserted through the skin in the mid-

line just at the upper border of the cricoid. If the skin is picked up and drawn away from the underlying tissues, this procedure is simplified. With the needle already through the skin, the cartilage is again located with the finger and the needle pushed through the crico-thyroid membrane by slipping it over the upper border of the cricoid. The point can be felt to slip through the membrane. The accuracy of the puncture having been verified by aspirating air into the syringe, the oil is injected. The needle should project just into the lumen of the trachea. If it is inserted far enough to touch the posterior wall, cough is usually elicited.

The position of the patient during the injection determines the portion of the bronchial tree which will be filled. If one desires to examine a lower lobe, the patient is placed sitting on a chair facing the operator. After the needle is inserted, he is told to lean slightly towards the side in question. Both lower lobes can be filled by having him lean to one side while half of the oil is being injected, to the other while the remainder is forced in. If a middle or upper lobe is to be filled the injection is made while the patient is lying on the affected side. To fill the upper lobe, he is tipped with his head downwards immediately after the injection. During injection in the recumbent position it is necessary that an assistant hold the head flexed to the upper side so that the oil will flow downward into the lung rather than backwards into the mouth.

I have found that ten c.c. of oil will give a satisfactory visualization of a single lobe in an adult, five c.c. in a child.

The procedure as described is extremely simple. It can be done in an office or at the roentgenologist's and is no more trouble and takes no longer than a simple hypodermic injection. In most instances there is no coughing or gagging. There is not the danger of aspiration of infectious material incident to the supraglottic methods. It is the only method other than bronchoscopy which can be used in children.

1817 W. Polk Street.

Society Proceedings

ADAMS COUNTY

The annual picnic of the Society was held on June 9 at the Quincy Boy Scout Camp seven miles north of

Quincy. An invitation was extended to all of the physicians in nearby counties to be our guests on this occasion and 75 were in attendance.

Those present enjoyed themselves playing baseball, pitching horseshoes, and playing cards.

There was a splendid chicken dinner served at noon by Clyde Collins with an abundance for all.

The Peerless Quartet of Quincy entertained with negro spirituals. HAROLD SWANBERG, M. D., Secretary.

Marriages

JACOB EDGAR REISCH to Miss Gladys Wilson, both of Springfield, Ill., May 3.

Personals

Dr. Robert S. Berghoff was elected president of the Chicago Tuberculosis Society, May 20, and Dr. Jerome R. Head, secretary.

The St. Clair County Medical Society was addressed, June 5, by Drs. William H. Vogt and Percy H. Swahlen, St. Louis, on "Normal and Pathologic Obstetrics."

The McHenry County Medical Society was addressed at Woodstock, June 13, by Dr. Harry M. Hedge, Chicago, on "Some Common Diseases of the Skin."

Dr. Jacob P. Greenhill addressed the Société d'Obstétrique et de Gynécologie de Paris, June 2, on "Cervical Cesarean Section Under Local Anesthesia" and "Vaginitis Due to Trichomonas Vaginalis."

Dr. Stephen Poljak of the University of California Medical School has been appointed assistant professor of neurology in the department of medicine at the University of Chicago, effective July 1.

Norman Bengston spoke under the auspices of the Chicago Tuberculosis Institute over WGN at noon on June 18 on "Hints on Prevention and Care of Tuberculosis."

Harry M. Hedge gave a talk on "Some Common Diseases of the Skin" before the McHenry County Medical Society at Woodstock, June 13.

A. I. Love addressed the Parent-Teachers' Association of the Volta School, June 18, 1930, at the Eugene Field House, on the Prevention of Contagious Disease.

At the 48th Annual Commencement Exercises of Yankton College, Yankton, South Dakota, the honorary degree of Doctor of Science was conferred upon Maurice L. Blatt, Chicago, who was graduated from the Academy in 1898.

The Fifty-seventh Annual Meeting of the Des Moines Valley Medical Association was addressed by Doctor John A. Wolfer on "Surgical Treatment of Carcinoma of the Breast," and by Doctor William H. Holmes, whose subject was "Neurological Lesions Frequently Encountered by Internists."

Dr. Clara Seippel Webster, a former president of the Medical Women's Club of Chicago and more recently of Tucson, Arizona, has been touring Europe, and announces that she will make her home in Minneapolis upon her return to this country.

News Notes

—A regular meeting of the Chicago Gynecological Society was held, June 20, with the following program: "Thymophysin in Selected Cases of Uterine Inertia" by Carl P. Bauer. "Studies in the Physiology and Pharmacology of the Human Vagina," by R. D. Templeton, Irving H. Stein and Sydney S. Schochet. Discussion by Prof. A. J. Carlson.

—The annual meeting of the American Academy of Ophthalmology and Otolaryngology will be held in Chicago, October 27 to 31. Dr. Robert Sonnenschein is general chairman of local arrangements.

—At the annual election of officers of the Chicago Medical Society, June 17, Dr. James H. Hutton was installed as president; Dr. John R. Harger was made president-elect, and Dr. Nathan S. Davis, III, secretary, re-elected.

—The Bacteriology Club of the University of Chicago was addressed, June 26, by Dr. Earl B. McKinley, director, School of Tropical Medicine, San Juan, P. R., on "Herpetic Encephalitis in Cebus Monkeys."

—The Iroquois County Medical Society met, June 2, at Watseka: the subject of the evening was diseases of the blood, given by Drs. Edward J. Wheatley and Edwin G. C. Williams, both of Danville.

—In assisting in the drive against cancer, public meetings in Aurora were addressed recently by Drs. John R. Harger, Chicago, on "Cancer—Its Control Through Education," and Gilbert Fitzpatrick; Dr. William A. N. Dorland, Chicago, showed the Canti Cancer Film. This campaign is directed by Dr. William H. Schwingel, chairman of the Kane County unit.

—Dr. Charles F. Read will become managing director of the Elgin State Hospital in July, succeeding Dr. Ralph T. Hinton, who has been transferred to the state's new mental hospital at Manteno. The Manteno hospital will open with about 1,600 patients shortly after July 1. When completed, it will house between 6,000 and 7,000 patients. The state has already spent \$3,000,000, and another \$2,000,000 probably will be required to complete it.

—At the annual dinner of the Faculty and Alumni of Rush Medical College of the University of Chicago, Congress Hotel, June 10, it was announced that Dr. Frank Billings, for many years professor of medicine and dean of the faculty, has given \$100,000 to establish four fellowships at Rush Medical College. They are to be named in honor of Drs. Edwin R. Le Count, professor of pathology; Ernest E. Irons, dean and professor of medicine, and Wilber E. Post, and Rollin T. Woodyatt, clinical professors of medicine. About 400 persons attended the banquet, the Gold Room being filled to overflowing. The toastmaster was Dr. Arthur T. Holbrook of Milwaukee. The speakers were President Hutchins of the University of Chicago, Drs. Billings, Arthur Dean Bevan, Anton J. Carlson, Edward S. Murphy, president of the alumni association; John Ritter, whose class celebrated its fiftieth anniversary; Donald P. Abbott, representing the class of 1910; Paul H. Harmon, representing the class of 1930, and Mr. William E. Sharp, representing the board of trustees of the Presbyterian Hospital. At the business meeting preceding the banquet, Dr. Carl B. Davis of Chicago was elected president of the alumni association for the ensuing year.

—The Fifty-seventh Annual Meeting of the Des Moines Valley Medical Association was addressed by John A. Wolfer on "Surgical Treatment of Carcinoma of the Breast" and William H. Holmes on "Neurological Lesions Frequently Encountered by Internists." Both speakers are members of the Wesley Memorial Hospital Staff.

—At a meeting of the Chicago Tuberculosis Society on May 20, the following officers were elected for the ensuing year: President, Robert S. Berghoff; vice-president, Karl Hendricksen; secretary and treasurer, Jerome Head. Samuel A. Levinson, W. H. Watterson and H. H. Bay were elected trustees.

NEWS ITEMS

—Announcement has been made that Rogers Park Community Hospital, 6970 North Clark street, Chicago, was taken over by a group of physicians, June 14, to be conducted as a first class "open staff hospital." Judge Harry Olson is chairman of the board of directors.

—At the annual meeting of the Editors and Authors' Association, held at Detroit, June 24, 1930, Charles J. Whalen was elected first vice-president.

—The Baron Hirsch Woman's Club has pledged \$10,000 toward the establishment of a cardiac clinic on the Midway as a part of the University of Chicago's clinics. The purpose of this clinic will be to keep in touch with every patient in whose history there is a record of heart disease. Transportation, food and lodging will be furnished to those in need. A survey will be made to secure part-time or light work for those who are able. The Baron Hirsch Woman's Club, one of the oldest Jewish clubs in Chicago, established one of the first convalescent homes in the city.

—During the past year 7,907 babies less than 1 year of age died in Illinois, it is reported, while in 1918 the number was 13,109. During the intervening period the lowest number of infant deaths reported in any year was 8,333, the number for 1928. The average for the period was 10,025. The number of infant deaths last year fell 2,118 below the average for the year since 1918. The number of deaths per thousand births among babies less than a year old has dropped from 105.7 in 1918 to 61.5 in 1929, a decline of 41 per cent in the state.

Deaths

CHARLES ISHAM ALLEN, Milton, Ill.; Rush Medical College, 1866; a pioneer of Pike County, aged 86; died, May 17, after two years retirement on account of ill health.

THOMAS N. AUSTIN, Genoa, Ill.; Michigan College of Medicine and Surgery, 1891; member of the Illinois State Medical Society; aged 68; died, April 3.

ROBERT HALL BABCOCK, Princeton, Wis.; Northwestern University Medical School, 1878; Columbia University College of Physicians and Surgeons, 1879; formerly professor of medicine, Postgraduate Medical School and well known specialist in diseases of the chest in Chicago until his retirement in 1928 on account of his health; blind from the age of 13 years; aged 79

years; died, June 28, of heart failure from indigestion and paralysis.

JUSTUS VINTON BACON, Chicago; Chicago Medical College, 1885; member of the Illinois State Medical Society; aged 71; died, March 10, of pneumonia.

CHARLES PETER CALDWELL, Chicago; Northwestern University Medical School, 1876; Rush Medical College, 1877; a former president of Chicago Medical Society and director of the Municipal Tuberculosis Sanitarium; on the staff of Mercy and St. Bernard hospitals; a practitioner until his retirement in 1926, aged 73; died, June 25, of subdural hemorrhage and cerebral thrombosis.

GEORGE CLEVELAND HALL, Chicago; Bennett Medical College, 1888; chief of staff of Provident hospital and training school; director of the Municipal Voters League and Negro leader in civic affairs; aged 66; died, June 17, of chronic myocarditis.

WILLIAM MORRELL JOYCE, Chicago; Detroit College of Medicine and Surgery, 1897; associate professor of otolaryngology at Northwestern University Medical School; on Wesley hospital staff; aged 53; died June 9, of thrombosis of the coronary artery.

LEVI JACKSON RHEA, La Harpe, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1882; aged 76; died, June 1, of progressive paralysis.

PHILLIP FAUN ROBERTS, Kewanee, Ill.; Northwestern University Medical School, 1906; a veteran of the Medical Corps, U. S. Army, at Camp Upton, L. I., 1916-1918; former commander of Kewanee Post, American Legion; aged 53; died, May 23, at Michell Farm, near Peoria, of myocarditis.

DANA BORDMAN SEGER, Morrison, Ill.; Rush Medical College, 1868; dean of the medical profession of Whiteside County and veteran of the Civil War; aged 88; died, June 17, of angina pectoris.

JAMES EPHRIAM SMEDLEY, Chicago; University of Michigan Medical School, Ann Arbor, 1890; a Fellow, A. M. A.; aged 74; died, May 17, of diabetes mellitus and arteriosclerosis.

JOHN T. SPENCE, Camp Point, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1882; member of the Illinois State Medical Society; aged 82; died, May 21, of cerebral hemorrhage.

LEWIS W. WRIGHT, Aledo, Ill.; General Medical College, Chicago, 1884; in practice longer than any other physician in Mercer county; aged 70; died, June 7, after several months of ill health.

RALPH WALDO WEBSTER, Chicago; Rush Medical College, 1898; a Fellow, A. M. A.; formerly student at several European universities, assistant in chemistry at Rush; fellow in the department of physiology at the University of Chicago and clinical professor of medical jurisprudence at Rush Medical college. From 1905 to 1911, in charge of chemical pathology at the Cook county hospital. Co-author with Frederick Peterson and the late Walter S. Haines of the standard work, "Legal Medicine and Toxicology"; author of "Phenomena of Absorption of Liquid by Animal Tissues," and "Diagnostic Methods." Dr. Webster was chief coroner's chemist of Cook county. During the World War he was a major in the medical corps. Aged 57. Died, July 2 of carcinoma of the colon.

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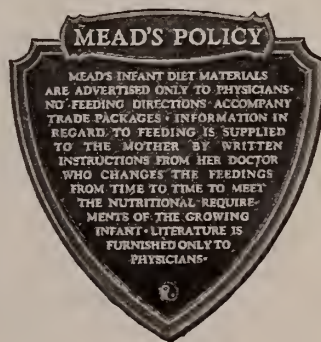


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Editorials

WHAT IS THIS COMMUNITY MEDICAL PROBLEM?—IN LAY DIRECTED INSTITUTIONS THE PHYSICIAN IS CAUGHT COMING AND GOING

The man with the M. D. tacked onto his name as well as the man in the street are asking themselves quite frequently these days, "What is this community medical problem, anyway?"

It has been well said that while an individual may possess an illness, yet both the individual and the illness are the concern of the community, and this is the heart of the community medical problem.

Statistics reveal that there are between 125 to 250 million cases of illness each year in the United States, and that further for every death recorded in the mortality statistics there are probably between 100 to 200 persons ill. For nonchronic diseases the average duration per annum amounts to some seven or eight days per capita. Now while the population of the United States increased but 30 per cent. during the years between 1908 and 1928, the number of hospital beds rose from 421,000 to approximately 893,000. Medical clinics increased from 600 in 1910 to 6,000 in 1926. There exist 7,000 hospitals with the capacity to care for 700,000 persons per day for whom there are 345,000 beds in general hospitals.

Of the approximately 143,000 doctors in the United States, probably some 110,000 are engaged in caring for the ill. With more physicians in proportion to the population than has any other nation, unfortunately the rural areas of the United States are as undersupplied as the urban vicinities are oversupplied with doctors, and the increasing death rate among the older physicians presents an acute problem to many a community. Some 55,000 midwives and some 32,000 nonmedical persons also aid in car-

ing for the sick, leaving about one and a half millions of persons employed in connection with the care and prevention of illness.

With the increased standard of living in the United States it has been estimated that the average budget on a salary of, say, \$2,000 would permit of an allowance of some \$41.60 per annum for medical, surgical and nursing care.

"According to the United States Bureau of Labor Statistics for the years 1918-1919 an average of \$10 per person for medical care was allotted for families when the income was between \$1,500 and \$1,800 a year," says an exchange. "For families with an annual income of \$2,500 an allowance of \$16 per person was made, and for incomes above \$2,500, \$18 per person was allowed. It must be borne in mind that this standard family consists of a man, his wife and two to three children. The United States census for 1920 indicated 4.4 persons per family in New York City. Experience has demonstrated that 40 per cent. of people at age 65 are dependents. It is estimated that the annual cost in the United States for medical, surgical care and nursing approximates \$4,000,000,000, with an additional wage loss two and one-half times as great. These, then, represent the basic elements that enter into the community medical problems, which affect the welfare of physicians."

The general prophylactic attitude towards public health has been manifested most widely in public service where society has set up its own machinery for attacking persistent problems, and, it must be admitted, oftenest with more lay enthusiasm than scientific skill. To the community health preservation is the primary concern. To the physician illness is the primary and health preservation secondary. Naturally there is a split between the profession and the lay men—whether it is best to keep up community health or to heal the individual sick man. Another thing in these lay directed institutions the physician is caught coming and going. He pays taxes as a citizen to keep up the lay machinery that increases his own scientific labor and decreases his own value as a wage earner.

This distribution of economic costs is the live wire in the community medical problem that is liable to short circuit the whole perfect achievements of modern scientific medicine. The physician is neither endowed nor divine. He has

to live and so does his family. Killing the golden goose is an old trick but none the less a sad one. And when modern scientific medicine is put on the wheel by lay interference, the real and the great sufferer will be the sadly hoodwinked public.

There must be a decided revision of the slate in point of relations on an economic standard between the medical profession and the public, but this can not come about by usurpation of scientific rights nor by depriving the physician and his family of their bread and butter. This new competition that the physician is facing of lay endowed foundations, clinics and medical schools, even state supported institutions practicing medicine, is beyond belief to men of vision and perspective.

DR. HUMISTON IS APPOINTED A MEMBER OF THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE A. M. A.

At the Detroit meeting of the American Medical Association Dr. Charles Edward Humiston of Chicago, Illinois, was appointed a member of the council on medical education and hospitals by Dr. William Gerry Morgan, the president of the A. M. A.

The virtue of this appointment is best evidenced by a brief recapitulation of the activities of Dr. Humiston.

He is widely known as a teacher of medical subjects, and is professor of clinical surgery in the school of medicine of the University of Illinois, and for eighteen years attending surgeon to the Cook County Hospital. Further, Dr. Humiston was one of the founders of the West Suburban Hospital, a two and one-half million dollar institution that is not only self-supporting but which even without endowment furnishes the highest type of hospital service—one of the finest hospitals in the country.

Dr. Humiston is recognized as a leading advocate and that along sane lines, of higher medical education, for more than twenty years has been interested in public health welfare matters as advocated through regularly organized medical channels and an uncompromising opponent of all forms of quackery.

During his term of office both as president of the Chicago Medical Society and of the Illinois

State Medical Society Dr. Humiston has served his profession ably and well. For many years Dr. Humiston has been a member of the House of Delegates of the A. M. A.

In this day of almost universal passion for false leaders it is refreshing to note how Dr. Humiston's keen mind has never swerved from conservative and ethical ideals and how the will-o-the-wisps of false reforms have never misled



CHARLES EDWARD HUMISTON, M.D.

him. It is to Dr. Humiston's forethought and capability that the best state medical law in the country is due—the Illinois Medical Practice Act of which he is the author. Further, Dr. Humiston has proven himself no mean soldier in the ranks of the bitter fight against lay interference and dictation in the practice of medicine.

Dr. Humiston was an early, consistent and persistent advocate of hospital standardization by the American Medical Association, and is vigorously opposed to all meddlesome interference in this matter on the part of any and all other self-appointed standardizing groups of every kind and character.

Dr. Humiston's part in the fight against the Sheppard-Towner and the Harrison Narcotic Acts are matters both of memory and of record.

It will be recalled that he appeared personally, July 18, 1921, before the Committee on Interstate and Foreign Commerce, House of Representatives, Washington, D. C., in opposition to the original Sheppard-Towner Bill. At the time mentioned Dr. Humiston was president of the Illinois State Medical Society and up to that time Illinois was the only state medical society that had gone on record in opposition to the vicious medical legislation exemplified in the Sheppard-Towner Bill and similar menacing medical legislation that has since become epidemic.

Dr. Humiston is in touch and in sympathy with the aims and needs of the profession. He is one of the ablest men in the medical profession for the position of member of the Council on Medical Education and Hospitals. We bespeak for Dr. Humiston as a member of the committee a popular and successful administration of the affairs of the American Medical Association.

President Morgan is to be congratulated upon this appointment of Dr. Humiston's. This is a delegation of power to hands and brain trained to its use and almost incapable of its abuse.

**DR. J. E. CAMP'S GOLDEN JUBILEE—
VETERAN PHYSICIAN HONORED
BY HANCOCK MEDICAL
SOCIETY**

The Golden Jubilee of Dr. Julian E. Camp of Augusta, Illinois, practicing physician for fifty years, was celebrated by a testimonial dinner July 7, given by the Hancock County Medical Society. The meeting was held at the beautiful Hancock County Automobile Club, on Lake Cooper, just above the Keokuk dam. Dr. R. F. Sheets, the society president, presided.

The senior Dr. Camp is the father of Dr. Harold M. Camp of Monmouth, Ill., secretary of the Illinois State Medical Society. A native of Pennsylvania, Dr. J. E. Camp at the age of five years was brought to Illinois by his parents, who settled in Adams county. A fortnight after his twenty-first birthday anniversary Dr. Camp received his diploma of medicine and in another fortnight was practicing in Brooklyn and neighboring terrain of Adams county.

The first speaker on the program was Dr. J. E. Camp, who gave a talk on "Medical Practice

in 1880," relating many interesting phases of practice at that date. He told stories of arduous and sleepless nights, traveling on bottomless roads that seemed like fairy tales to the young doctors who have no greater hardship than a punctured tire when they go out on country calls these days.

This veteran "saddle-bag" doctor took the first hypodermic syringe, stethoscope and fever thermometer into that district. His older confreres made fun of them—and him—but the young man had the courage of his ideas and stuck them out. Despite the fact that he was told that a "real doctor" didn't need such flub-dubs, he has lived long enough to see that no "real doctor" gets along without them. This typical family physician of the old school has kept pace with general medical developments and improvements, through postgraduate courses in Chicago and in New York, and has steadfastly refused all invitations to remove into urban communities. After forty-seven years of continuous practice in one community he did remove twelve miles distant to Augusta in Hancock county. This put him on the railroad and into a modern home, with cement roads at his disposal. Whereas now Dr. Camp can perform operations in the marvelous, almost miraculous equipment furnished by modern hospitals, many of his early patients were operated on by lamplight and upon the traditional kitchen table and lived not only to tell the tale but to brag of it—serious operations, too.

All of which goes to show that the man and his skill must rise superior to environment if it is to be effective.

In his earlier practice summer dysenteries and autumn malarias and typhoids were Dr. Camp's grist for years, diseases that the modern doctor is seldom called on to treat. Though now he covers his large country territory by automobile and could do it by airship, in the early days his radius of from 15 to 25 miles was done either on horseback, with the saddlebags over the good old roan, on roads that were corduroy or worse, or with more favorable conditions with horse and cart or buggy.

In this work he had to have three horses at least and to use them alternately. The horse

could have a change and a rest; the man of science could not. When work was hardest it was the practice of Dr. Camp to take a driver, and what sleep he had was what he got between patients.

Ever a voluminous reader, Dr. Camp has a library of his own that approximates 1,000 volumes. He is very fond of psychological reading and in his practice inclines towards neurology. Herbert Spencer and James are among his favorite authors.

Unusually active for a man in his seventy-third year, Dr. Camp not only attends regularly the meetings of his medical society but takes an active part in them.

During Dr. Camp's fifty years of practice his profession has made greater scientific advance than it had done in fifty preceding centuries.

As a souvenir of the occasion Dr. Camp was presented with a leather covered autograph album containing the personal signature of every lady and gentlemen present at the dinner and meeting. The cover of the album has the Doctor's name stamped in gold.

The family physician of the country district who serves through half a century, perhaps seeing his town grow into a city during that period, stands in a distinct class in these days of city specialists. A great satisfaction it must be to Dr. Camp to think back over these busy years. We are indeed glad that his fellow doctors and his many friends and fellow townsmen saw fit to unite in showing this evidence of their appreciation. The following amply applies to Dr. Camp as well as to many hard working physicians:

Fifty years is a long time in one life, yet night and day, in the storms of winter and through all kinds of roads, Dr. Camp has been at the call of everyone who needed his help in that whole countryside. His cheerful presence and efficient help have been a rock of strength in innumerable families, in the dawn of life, in countless sick-room crises, and finally when death rang down the last curtain.

Yet, with all this hard work, and in spite of the trouble and suffering that a physician is called upon to see, Dr. Camp has been able to keep his cheerful, hopeful outlook on life, and

today it may be said of him, as Dr. Oliver Wendell Holmes said of a friend:

"To be seventy years young is sometimes far more cheerful and hopeful than to be forty years old."

Following Dr. Camp on the program, Dr. William B. Chapman of Silvis, president of the Illinois State Medical Society, spoke on "Then and Now." Dr. Chapman, son of an Illinois pioneer physician, told of his earliest recollections of medical affairs occurring in his father's practice. He contrasted medical education, knowledge, methods and diseased conditions of fifty years ago with those of today. His talk was particularly along economic lines.

Dr. Andy Hall, Director, Department of Public Health, Springfield, had for his topic "The Relation of the Public Health Department to the Practicing Physician." In characteristic forceful manner, Dr. Hall showed the absolute necessity of complete co-operation between these agencies for improving public health. Dr. Hall proved conclusively that Health Departments should be supervised by medical men, who in turn should receive the fullest co-operation from medical men and medical societies in order to function to the best advantage. Reference was made to improvements in mortality and morbidity statistics in Illinois; suggestions were made as to how they can still be improved.

Dr. E. P. Coleman, Councilor of the Fourth District, Illinois State Medical Society, Canton, Illinois, spoke on "The Treatment of Eclampsia" in which he contrasted the results of former methods with those of today. He advocated the use of glucose and magnesium sulphate intravenously, with an immediate emptying of the uterus, and reported that in his recent series of 14 consecutive cases, there were no deaths. This meeting was attended by more than one hundred doctors from Illinois, Iowa and Missouri, and once more illustrated the fact that a small society can have a big meeting. The meeting was arranged by Drs. R. F. Sheets and W. I. Irwin of the Hancock Society. In addition to Dr. J. E. Camp, two other physicians were present who were graduated more than fifty years ago—Dr. C. L. Ferris of Carthage and Dr. I. F. Harter of Stronghurst. Among the guests from a distance was Dr. E. B. Goodwin, secretary of the Missouri State Medical Society, St. Louis.

THE AMERICAN MEDICAL ASSOCIATION ADOPTS TELLING RESOLUTION AGAINST PERPETUATING THE SHEPPARD-TOWNER MATERNITY AND INFANCY ACT

At the Detroit meeting of the American Medical Association the following resolutions were offered by the Board of Trustees adopted by the House of Delegates on recommendation of the Reference Committee on Legislation and Public Relations:

WHEREAS, The American Medical Association is in entire sympathy with the cooperative efforts of federal and state agencies to establish and develop official local health organizations for the conduct of those activities which are generally recognized as the proper functions of such health departments; and

WHEREAS, The usurpation of any public health function by any lay bureau of the federal government, which, through allotments of federal subsidies for special health service, seeks to duplicate and administer duties and functions already placed by law on the United States Public Health Service; and

WHEREAS, The United States Public Health Service has in the past efficiently discharged its duties with respect to such matters and now, through recent reorganization, has been provided with enlarged facilities for carrying on such work; and

WHEREAS, An effort is now being made to revive and perpetuate the federal subsidy system established under the defunct Sheppard-Towner Maternity and Infancy Act, which authorized the payment of state subsidies over a fixed period of years, on an arbitrary and irrational basis of population, without reference to the ascertained sanitary and health needs of the several states or to their ability to meet their own needs; and

WHEREAS, The payment of such subsidies was made dependent on the surrender by the legislatures of the several states, to the federal government, of the right to supervise and control state activities in the selected field of public health; and

WHEREAS, This system after seven years' trial under the administration of a lay bureau effected no improvement in the field of public health in which it was operative, notwithstanding the ex-

penditure of more than 11 million dollars of federal and state money; and

WHEREAS, In the judgment of the House of Delegates of the American Medical Association, any such system tends to destroy local initiative and sense of responsibility and to pay federal funds for purposes named by the federal government to states not in need of federal aid; be it

Resolved, That the House of Delegates of the American Medical Association condemns as unsound in policy, wasteful and extravagant, unproductive of results and tending to promote communism, the federal subsidy system established by the Sheppard-Towner Maternity and Infancy Act and protests against the revival of that system in any form;

Resolved, That it is the sense of the House of Delegates that each state should be left free to formulate its own health program, with the co-operation of the United States Public Health Service if desired by the state, free from any inducement or compulsion in the way of federal reward or coercion;

Resolved, That any legislation involving co-operation between the federal government and the several states in the field of public health must, in the interest of efficiency and economy, in the judgment of the House of Delegates, be administered under the joint supervision and control of the United States Public Health Service and the state health authorities; and be it further

Resolved, That copies of these resolutions be sent immediately to the President of the United States and to every Senator and Representative in Congress.

A supplementary report to the above was adopted at the same meeting:

Resolved, That the Board of Trustees be requested to initiate as speedily as practicable a movement to enlist every state medical association and county medical society, and every member of the medical profession, in a movement to carry into effect the policy of the American Medical Association, as defined in the preceding resolution, with respect to co-operation between federal and state governments in public health activities.

Both resolutions were referred to the committee on legislation and Public Relations. In ap-

proving the resolutions the committee made the following notation:

Your committee has carefully considered the excellent resolution presented by the Board of Trustees relative to federal aid for maternal welfare.

The resolution shows evidence of most thorough study and careful preparation.

The committee feels that the beneficial effect of this resolution when passed by the House of Delegates of the American Medical Association should have a far-reaching beneficial effect and should be of great assistance to the profession throughout the United States in its campaign of education of the public in which we are endeavoring to show the menacing effect of paternalism so beautifully exemplified in the so-called Sheppard-Towner and similar forms of legislation.

For a period of ten years the ILLINOIS MEDICAL JOURNAL has fought consistently against the enactment in this country of all forms of legislation as typified in the Sheppard-Towner Act.

A similar legislation to the maternity and infancy statute is an invitation to progressive encroachment by the Federal Government on the rights and independence of the state. It opens the way to snooping interference by Washington with the private affairs of domestic life.

The evil of federal interference might be tolerated if it could be shown that the benefits to mankind were sufficiently large and could be obtained in no other way but nothing of this sort has been shown; only recently we demonstrated in the columns of this journal that Illinois, one of the five states that refuse to submit to Sheppard-Towner law dictation had the lowest infant and maternity mortality rate in the country.

The Sheppard-Towner law has been wasteful, extravagant and unproductive of results, and has a tendency to promote communism; and we believe that it should be definitely shelved so that each state may be left free to formulate its own health program with the co-operation of the United States Public Health Service if desired by the State, free from any inducement or compulsion in the way of federal reward or coercion. Our attitude on Sheppard-Towner and similar forms of legislation is that of ex-president

Coolidge's doctrine of state rights and responsibility.

DOCTORS WHO HAVE ACHIEVED FAME IN OTHER FIELDS THAN MEDICINE, ART AND METAPHYSICS

DR. GEORGE B. LAKE

The apotheosis of the tangible and the intangible effect at least partial contact in the vocation and avocation of George B. Lake, M. D. The human body is acclaimed as the perfect machine. Perhaps from a divine perspective it may always be the most magnificent poem, and the grandest sonata. Into that realm of the invisible, among the world of the mystics, Dr. Lake has let run his fancy in his spare moments.

During the last five years this capable physician has been an active and respected member of the American Society of Psychic Research. His study and research of esoteric philosophy is backgrounded both by a knowledge of comparative religions, carefully attained, and his practical scientific training. Certainly there is no science more practical than that of medicine.

Poetry, twin sister of music, and both the children of rhythm, was the medium for Dr. Lake's interest in much of the great invisible, but dare we call it the impalpable?

At 16, Dr. Lake began to write verse. During the twenty-five years that have elapsed since then not only has this penchant become a hobby but it has developed both an attentive consideration and a research in pictorial art.

Some twelve or fifteen years ago, shortly after first turning his mind to esoteric philosophy, Dr. Lake became a Fellow of the Theosophical Society. Gradually he began both to lecture and write sporadically, on the scientific and psychologic aspects of occultism and mysticism, and later in ritualism, both as practiced in the various branches of the Catholic church and in Freemasonry. Among published work of this sort were "The Science of the Unseen" in the *Medical Journal and Record* under date of July 6, 1927; "Needed—A Philosophy of Life," in *Welfare Magazine* for April, 1928, and "Fundamentals of Practical Psychology" in *Medical Journal and Record*, April 16, 1930.

Dr. Lake is a life member of the Art Institute. He is interested especially in the works of

George Inness and the Barbazon school of painters under which Innes' later technic was developed. For more than three years Dr. Lake has been conducting classes gratuitously for the systematic study of esoteric philosophy. He is an active worker in the liberal Catholic church.

Further, Dr. Lake's fame as a poet is spreading.

Much of his work is of the mystic school—Blake, Pater, Shelley, Keats and the Rosettis trod that path before him. Poetry magazines of the higher grade welcome his contributions—among them the "Bookfellow's Anthology." About eighteen months ago Dr. Lake published a book, "The Apostle of Joy," from which is taken the reprinted selection:

"The Joy of God"

God must love mountains and the mighty blast;
Snow and high places; dew and dainty flowers
That, in the springtime, fill the verdant bowers
With fragrance; and the silent, thrilling, vast
Peace of the night with darkness overcast.
He must love sunsets, too; the twilight towers
Of cloudland are all rosy though the hours
Of glory flame where lonely gulls fly fast.

I have seen mountains, winds and lightning's
power;

I've seen a wee pink posy 'neath the trees,
Far up the crags, where scarce a man e'er trod,
And I believe the tempest and the flower
And opal dawns, breaking o'er empty seas,
Show forth the beauty and the joy of God.

George Burt Lake.

(From "An Apostle of Joy.")

George B. Lake was born in Topeka, Kansas. Attended high schools in Howell, New Baltimore and Ann Arbor, Mich., and Wheaton College Academy, Illinois. Graduate of Rush Medical College (1902). Served for two years as assistant surgeon, Mexican Central Railway. General practice in Wolcottville, Indiana, for six years, during which time served for four years as Town Health Officer; for three years as Special Lecturer in Rural Hygiene and Sanitation, Purdue University, Ind.; and was an official delegate from Indiana to the Sixth International Congress on Tuberculosis. Graduate of Army Medical School in 1911 and served as an

officer of the Medical Corps of the Regular Army for 14 years, including three years in the Philippine Islands and a year in Mexico with the Punitive Expedition. (At present, Colonel, Medical Reserve Corps, U. S. A.) Now Managing Editor, *Clinical Medicine and Surgery*; Attending Internist (psychotherapy), American Hospital (Chicago), and lecturer for the Scientific Service Committee, Illinois State Medical Society.

Fellow of the A. M. A.; Associate, American College of Physicians; member, Association of Military Surgeons of the United States, Association for Study of the Internal Secretions, Medical Round Table of Chicago (present 1925 to 1927), American Medical Editors' Association and Press Club of Chicago. Licensed to practice in Indiana and Illinois. Specialty, psychotherapy.

In our column of "Hobbies of Medical Men" we have as candidates for future write-up the names of the following physicians who have achieved fame in fields other than medicine. They are:

William Barnes, Decatur, Ill.; Carl Schneider, Henry T. Byford, Richard S. Patillo and Louis J. Tint, all of Chicago. Do any of our readers know of additional names that should be added to the list?

HONOR TO WHOM HONOR IS DUE—TESTIMONIAL DINNER GIVEN TO OUR PRESIDENT, DR. W. D. CHAPMAN OF SILVIS, ILL.

Black Hawk State Park, once the capital of the Sauk and Fox nation, had a notable gathering of medical men when on June 10 the Rock Island County Medical Society gave a testimonial dinner to Dr. W. D. Chapman of Silvis, Ill., who in May, 1930, became president of the Illinois State Medical Society.

The Rock Island County Medical Society as well as its fellow societies throughout the state know full well that Dr. Chapman has more than earned any honors that can be bestowed upon him. For twenty years Dr. Chapman has been in the forefront of every movement to stem the vicious trend of economic and political affairs in this country and to check the tide of bureaucratic legislation threatening to destroy the bulwark of democracy, the Constitution of the United States. In and out of season, Dr. Chap-

man has both worked and appeared in person in opposition to all forms of vicious medical legislation whether at Springfield, Ill., or Washington, D. C. Nor has Dr. Chapman failed once as both a worker and a leader in the rank and file of industrious medical men.

Most efficiently he has filled all the numerous official positions that have been his added labor.

To have held this dinner in Watch Tower Inn was a fitting thing. Blackhawk's old home. And both Blackhawk and Chapman are good Indians—the one now dead, the other, thank God, still living.

Blackhawk fought for the preservation of his tribesmen. Dr. Chapman fights for the cause of humanity and the preservation of medical integrity.

Officers of the Rock Island County Medical Society are: President, J. C. Souders; vice-presidents, A. Knutson and P. H. Wessel; secretary, W. F. Schroeder; treasurer, C. C. Ellis, and medical legal advisor, A. T. Leipold.

Dr. Leipold headed the committee on arrangements for the banquet, assisted by Drs. H. A. Beam, L. C. Ostrom and A. E. McEvers. The program ran:

Meeting called to order by Dr. J. C. Souders, president, Rock Island County Society, Rock Island.

Toastmaster, Dr. L. C. Ostrom, Rock Island.

"Associations With Royalty"

Dr. Harold M. Camp

Secretary, Illinois State Medical Society,
Chicago

"My Earliest Impressions of Dr. Chapman"
and "Legislative Topics"

Dr. J. R. Neal

Chairman Legislative Committee, Illinois State
Medical Society, Springfield

"Friend Chapman"

Dr. James H. Hutton

Chairman Scientific Service Committee, Illinois
State Medical Society, Chicago

"Dr. Chapman, the Practical Physician"

Dr. Chas. J. Whalen

Editor Illinois Medical Journal, Chicago

"Medical Impressions"

Dr. J. Henry Mundt

Past President Illinois State Medical Society,
Chicago

"Greetings from the State Department of
Public Health"

Dr. Andy Hall

Director Public Health, Springfield

Considering that among the Indians at least the medicine man was never begrudged the fat of the kill and the best of the harvest, it may not be amiss to set down a word or two of information regarding Blackhawk and the park where in 1780 the great Sauk village was attacked by an expeditionary force sent out by Gen. George Rogers Clark in the westernmost campaign of the War of the Revolution. Blackhawk, then thirteen years of age, saw his home tepees all go up in smoke. This region was literally drenched with the blood of patriots. It was so often and in so many wars a battleground that it is land too sacred to be used for anything but a memorial park.

As an indication of high esteem in which Dr. Chapman is held by his brother physicians, every member of the Rock Island County Medical Society was present at the testimonial dinner. Dr. Chapman was presented with a beautiful traveling bag as a token of appreciation by the Rock Island County Medical Society.

ILLINOIS STANDS LOW IN THE LIST OF STATES IN THE PREVENTION OF BLINDNESS IN NEWBORN BABIES. OPTHALMIA HAZARDS EYESIGHT

According to Dr. Andy Hall, Director of Public Health, ophthalmia neonatorum, an eye disease frequently leading to blindness in the newborn, is fifteen times more prevalent for every thousand new-born babies in Illinois than in New York, eleven times more prevalent in Illinois than in Missouri and six times more prevalent than in Pennsylvania. This is disconcerting in view of the fact that a couple of drops of prophylactic solution placed in the eyes of infants immediately after birth are all that is necessary to prevent both the disease and the danger of blindness.

The law in all of these states concerning the furnishing of free prophylactic solution and the reporting of ophthalmia neonatorum is the same but in the states of Pennsylvania, Missouri and New York the law compels all physicians and midwives to instill the solution into the new-

born babe's eyes while in Illinois the law is simply permissible with no penalty attached for failure. Hence the disgraceful, expensive incidence of blindness in Illinois from a well known, easily preventable disease.

Last year Illinois had 561 cases of ophthalmia neonatorum reported, a rate of 4.3 per 1,000 births. Only four other states in the Union had a rate above 1 per 1,000 births.

During the last two school years 10 cases of blindness among first grade pupils have been definitely traced to ophthalmia neonatorum in Illinois. This indicates that about 1 case of ophthalmia neonatorum out of each 100 reported terminates in permanent lifelong blindness of the infants affected.

During the last 7 years 3,402 cases of ophthalmia neonatorum have been reported in Illinois. It appears, therefore, that not less than 34 children have been rendered permanent blind from this cause in Illinois since 1923.

Ophthalmia neonatorum can be prevented by the simple process of dropping in the eyes immediately after birth a few drops of a prophylactic solution. The State distributes free a prophylactic in the form of silver nitrate. It is available upon request addressed to the State department of health at Springfield, or from any of the 500 agents located in all counties and larger cities.

Perfectly harmless, the prophylactic should be used universally as a precautionary measure. To insure its general use a law making it obligatory upon physicians and midwives to use the silver nitrate in all cases except where parents are willing to sign contracts absolving the attendant and the State from all responsibility is needed. The present law makes the reporting of cases and prompt treatment compulsory.

The counties in Illinois now are paying out more than \$1,000,000 to support 4,500 blind pensioners, many of whom were blinded as the result of this preventable disease.

DO YOU PAY YOUR DOCTOR?

The man who takes his automobile to a garage for a good overhauling or even a surface cleansing doesn't expect to recover his property until he has paid the mechanic's bill. With the doctor, now, it's different. The doctor is mechanic, engineer and chief bottle washer for the

ailing human frame. Yet does he get paid when his work is done? Yes, if and when.

According to "America's" editorial columns, the Metropolitan Life Insurance Company has made an interesting survey among its millions of policyholders. This canvass reports that the average annual payment by the average family to its physician was \$140. Only the doctor himself knows when and after what delays this sum was finally paid to him.

Says the commentator wisely:

"Now the cost of repairing the human machine engenders one of the most interesting problems of the day. It is a most important factor in the family budget. From very many parts of the country the report has come that, after the bill for medical services has been rendered, the family physician, who floated into the house with healing upon his angelic wings, assumes the menacing part of a Shylock.

"That medical, hospital, and surgical fees do impose a terrific burden upon some families is beyond all question. To many a man working for a salary, the physician's order to go to a hospital for an operation, is worse than a decree in bankruptcy. It means, in many instances, the loss of his job, and a period in which bills pile up so high that he must work for the rest of his life to pay them.

"This fact is recognized by the profession. For several years medical, surgical and hospital committees have been surveying the field, and as they are animated by an honest purpose, we can rely upon an accurate and intelligent diagnosis of a very serious social problem. But it has already become apparent that the reason of many a heavy hospital bill is the fact that the patient and his family have demanded unnecessary, and even luxurious, accommodations and special service. Even when they are sick, some people never lose their ambition to keep up with the family of Jones.

"One aspect of this problem should not be lost sight of. If some physicians demand, and collect, exorbitant fees, others never receive the modest fees which they ask. Every profession has its list of non-paying clients, but the physicians probably have the longest catalogue. Men who have been snatched from what Mr. Toots would designate as the Cold and Silent Tomb, are so jubilant that they are quite unable to

think of anything so prosaic as a bill for professional services rendered. Besides, now that the crisis is safely passed, they are too busy arranging a trip to Europe.

"Most families have a tale of the Exorbitant Physician. There is such a creature. But there is also the physician who comes home tired out after a long day, to wonder where he can scrape enough money together to meet his office rent. In his behalf, we would urge the obligation, sanctioned by all law, human and Divine, to pay one's debts as promptly as possible."

ANNUAL MEETING OF INTER-STATE POST GRADUATE MEDICAL ASSOCI- ATION OF NORTH AMERICA

The International Assembly of the Inter-State Postgraduate Medical Association of North America will be held at the Municipal Auditorium, Minneapolis, Minnesota, October 20-21-22-23-24, 1930.

Detailed information relative to the meeting can be procured by writing Dr. Edwin Henes, Jr., executive secretary, 445 Milwaukee St., Milwaukee, Wis. See advertisement on page 2 this issue.

Correspondence

LAW ON COMMITMENT OF INSANE

Chicago, Ill., June 12, 1930.

Dr. J. R. Ballinger,
Chairman, Medico-Legal Committee,
Illinois State Medical Society,
Chicago, Illinois.

Dear Doctor Ballinger: In view of the fact that a number of suits have recently been filed against physicians for damages for false arrest in connection with the restraint of persons alleged to be insane, I thought it might be of interest and benefit to the members of the Illinois Medical Society if I should write you a general statement of the law governing the liability of physicians in such cases, and some practical suggestions for the avoidance of trouble and embarrassment.

Paragraph 2 of Chapter 85 of Cahill's Illinois Revised Statutes 1929, provides:

"Except as hereinafter provided, from and

after the passage of this Act no insane person, or person supposed to be insane, but who shall not have been legally adjudged to be insane, shall, by reason of his insanity or supposed insanity, be restrained of his liberty: Provided that this section shall not be construed to forbid the temporary detention of an alleged lunatic for a reasonable time, not exceeding ten days, pending a judicial investigation of his mental condition."

Paragraph 3 of the same statute provides:

"When any person shall be or be supposed to be insane, any reputable citizen of the County in which such patient resides or is found may file with the Clerk of the County Court of said County a statement in writing, under oath, setting forth that the person named is insane and unsafe to be at large, or suffering under mental derangement, and that the welfare of himself, or others, requires his restraint or commitment to some hospital or asylum for the insane; the said statement must be accompanied by the names of the witnesses (one of whom at least must be a physician having personal knowledge of the case) by whom the truth of the allegations therein contained may be substantiated and proved: Provided that when it shall appear by such statement that the person alleged to be insane has not been examined by a physician, the Judge may appoint a qualified physician of the County to make such examination and allow him compensation therefor, not exceeding five dollars, which shall be taxed and collected as here provided in respect to other costs in proceedings in inquest of lunacy."

In a comparatively recent case decided by the Supreme Court of Illinois, *Crawford v. Brown*, reported in Volume 321 of the Illinois Supreme Court Reports at page 313, it is said concerning this statute:

"Our statute does not authorize members of the family, doctors and nurses to commit a person to an institution for the insane without the authority of a judgment of court. Temporary detention or restraint of an alleged lunatic is permitted for not exceedingly ten days pending a judicial investigation, when the safety of the patient or others requires it.

* * *

"The weight of authority appears to be that an insane person may, without any adjudication, be lawfully restrained of his liberty when to not

do so would endanger his own life or the life of others, but such right to restrain is limited to cases of actual insanity and immediate danger. Insanity which does not render the insane person dangerous to himself or others is not a lawful excuse for restraint without a judicial proceeding. A private person who applies such restraint must act upon facts—not suspicion or belief,—and takes the responsibility of an error of judgment. Some cases hold that relatives of one who is insane may commit him without judicial proceedings if they act in good faith for the insane person's benefit, but it seems evident in such cases the statute was different from ours, under which only a court can adjudge one insane. Under our statute no insane person shall be restrained of his liberty unless he has been legally adjudged insane, except that temporary detention of an alleged lunatic may be permitted for a responsible time, not exceeding ten days, pending a judicial investigation of his mental condition. By practically all authorities it is held that such imprisonment or detention without an adjudication is only authorized where the condition of the person is such that restraint is necessary for the protection of the insane person or others from his violence."

This decision is in harmony with the judicial authorities of other States.

The prudent physician faced with a situation suggesting the restraint of a person alleged to be of unsound mind will make careful inquiry to determine—

1. If the person has been adjudicated (that is, found by the judgment of a proper court) insane. (Note: In such case, the physician can act, according to his best judgment, at the direction of the conservator or custodian appointed under order of court.)

2. If the person has not been so adjudicated, whether he is suffering under such mental derangement that he is so dangerous to himself or others that his restraint is required. (Note: In determining this question, the physician can not rely on hearsay, not even on the statement of relatives, but must ascertain the *facts* for himself.)

If the physician makes a preliminary statement giving it as his opinion that such person is of unsound mind, and the alleged lunatic is taken into temporary custody, the physician should ascertain the disposition of the case

(within ten days thereafter) before giving further directions as to restraint or compulsory treatment. If the alleged lunatic has been adjudicated, the physician should act only at the direction of the duly appointed conservator or the custodian or upon a court order.

Wherever possible, the physician should protect himself against the assertion of a claim of malicious interference by securing a signed statement from the nearest relative of the alleged lunatic, requesting the physician's examination and advice.

Yours very truly,

FRANCIS X. BUSCH,
Attorney.

231 S. LaSalle Street.

PERFORATING ULCER OF FOOT IN DIABETES.—Dean Lewis (*Southern Medical Journal*, 20:424, June, 1927).

There occurs in diabetes a peculiar perforating ulcer of the foot which in many ways resembles the perforating ulcer occurring in tabes. Many of the cases, however, are strictly speaking, ulcers which have followed a circumscribed phlegmonous inflammation of the skin and have refused to heal because the diabetes has not been controlled. There does occur in diabetes a typical perforating ulcer not associated with tabes. This ulcer is usually located upon the sole of the foot, just back of the head of the fourth metatarsal bone, has caloused margins, and is deep and crater-like. Frequently it is not surrounded by anesthetic skin. In general appearance this ulcer resembles that occurring in tabes or upon the heel after division of the sciatic nerve. It may develop rapidly or relatively slow. Diseased capillaries have been found in the skin adjacent to the ulcer. It is quite probable that this type of ulcer is due to the same factors as the perforating ulcer in tabes. It develops at points exposed to pressure. Nerve lesions are also common in diabetes, although the skin surrounding such an ulcer is not always anesthetic. In not a few instances the destructive process extends to the head of the metatarsal bone, usually the fourth. This may become sequestered without any marked inflammatory reaction.

GALL-STONES AND DIABETES.—Paul L. Hudson and William F. Lake (*Clinical Medicine and Surgery*, 34:253, April, 1927).

Vogel found that in 62 per cent of all cases of acute pancreatitis there was an associated gall-bladder infection. Many other authors have called attention to the frequent concurrence of these two conditions.

B. F. Jones has reported a group of diabetics whose clinical course and sugar tolerance have been greatly benefited by surgical attention to diseased gall-bladders. He advocates the careful search for hidden infections,

especially in the gall-bladder, in all cases of diabetes.

Many cases of essential hypertension, especially in women of over weight, have frequently been relieved by operation on the gall-bladder.

CASTOR OIL, QUININE, AND PITUITARY EXTRACT IN THE INDUCTION OF LABOR.—Albert Mathieu (*American Journal of Obstetrics and Gynecology*, 13:223, February, 1927).

A series of 91 cases is reported in which induction of labor was successful in 96.7 per cent with castor oil, quinine and pituitary extract. There were no deaths, either maternal or fetal.

The author deems it best to modify the method advocated by Watson in that only 3 minims of pituitary extract instead of one-half to 1 c.c. should be given. Also, the first does of pituitary extract should be given as the enema is being expelled. The attempt at induction should be continued over a longer time than that advised by Watson.

MILD DIABETES AND ITS POSSIBLE CURE.—George H. Tuttle (*Medical Times*, 55:90, April, 1927).

In its earlier stages diabetes is not a fixed disease, as it consists only of slight variations of the normal sugar machinery; without permanent anatomical changes. It does not become a fixed disease until acidosis is firmly established in its chronic stages. Mild cases represent 75 per cent of all diabetics. Most of them never go to the hospital during the early stages.

Tuttle believes that too much attention and money is wasted upon the hopeless severe hospital cases, while the 75 per cent mild diabetics who could easily be cured, gradually progress into worse conditions and keep up the supply of severe diabetics and coma deaths. An attack of mild diabetes can be cured as thoroughly as an attack of pneumonia. Chronic diabetes is incurable. Gradual additions of carbohydrate food stimulate the islands of Langerhans to produce more insulin, whereas undernutrition and exogenous insulin merely rest them without causing increased production.

ESTRUS HORMONE UNITS.—Katharine H. Coward and J. H. Burn (*Journal of Physiology*, British, 63:270, Aug. 8, 1927).

The authors applied the principles laid down by Trevan to the investigation of the rat and mouse unit, and for this purpose examined one sample of ovarian extract on 90 rats and 70 mice. The investigation showed that the variation in the rat unit or the mouse unit may be as great as 1000 per cent. The unit is redefined as the dose required to produce estrus in 50 per cent of ovariectomized animals. The relation of the average rat unit to the average mouse unit is one. The average unit is the same whether the injection be made as a single subcutaneous injection, as a single intraperitoneal injection, or as a triple subcutaneous injection of which the separation injections are made at intervals of four hours. Single animals, injected once a fortnight with the same dose, vary considerably in their response.

Original Articles

A PROFESSION—INCORPORATED*

CHARLES B. REED, M. D.

CHICAGO

"The practice of medicine from its earliest inception has been a peculiarly personal pursuit. The doctor comprehended all the available information of his generation and his visit, his examination and his elementary laboratory work represented all that could be known of human disease."

Even at present individual practitioners can easily and successfully care for 85 per cent. of medical business without the aid of assistants or expensive apparatus. These men are as earnest, as right-minded, and as fully abreast of their time as their eminent predecessors. They feel the moral side of medicine acutely and cherish it. They feel the honor of service, the claim of high ability, usefulness, altruism, and the sense of responsibility for the confidence and trust reposed in them. In return, they should and do receive independence in their vocation, the satisfaction that follows problems by distressful effort solved, together with the respect and affection of the community. These men are the backbone of the medical profession today and they expect the proper reward which is the natural aim of normal men. Their work is vital to public welfare; and if the acutely sick are to be fittingly cared for a medical career must not be closed or made unattractive to their physicians.

The growth of the modern technique of medicine, with its numerous diagnostic procedures, meant, of course, that the sick received more extended attention than was possible before. But with this development a division of labor was immediately necessary, in order to increase the precision and effectiveness of the methods of treatment which have been devised to supplement the complexities of investigation.

This multiplicity of function not only took from the doctor the full medical intelligence which came from the performance of the earlier technique, but naturally added much to the expense. Furthermore, in addition to the exacting which modern methods demand for general

practice there is a minority—15 per cent. perhaps—who require specialists, elaborate equipment and a cooperative organization by which to refine once more the diagnosis and once more the cost is enhanced. As soon as this problem arose the physician was faced with the necessity of giving his patient an inferior service or undertaking a large monetary outlay. To reduce the cost of medical care of which the physician's share is only 25 per cent., and make the service available without diminishing its value some form of organization was requisite, although the process seriously interfered with the highly desirable features of individualistic practice.

Thus it came about that large hospitals were built, health departments were expanded, health demonstrations increased, independent clinics created, the clientele of dispensaries was enlarged and government bureaus established—bureaus which were innocent enough to casual inspection but capable of becoming Procrustean beds overnight.

To these numerous enterprises which for the most part were conceived and begotten by doctors themselves must be added the eleemosynary and philanthropic endowments managed by the various foundations and applied to the diagnosis and treatment of disease and to public health work.

These foundations, which in some cases seem to be unwisely projected or imprudently administered, have sucked into the maw of charity a social class which formerly paid its own doctors and lawyers, and although the medical man is the most essential element in the operation of these benefactions, yet his function and indispensable contributions are completely overshadowed by the magnificence of the monetary management.

The necessity of combining under one roof a systematic division of labor with a minimum of expense in collecting the required information produced a situation which the private practitioner could not encompass as an individual. This dilemma was solved only to lead medicine into another and worse predicament.

Institutions constructed for and more or less necessary to the 15 per cent. who always need the service of specialists and elaborate equipment, are today thronged by the 85 per cent. who could easily be cared for by the general practitioner. This 85 per cent. apparently are not to be denied. They insist upon having the last word in health

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service, superfluous and expensive though it be, for the same reason that they burden themselves with pianos, automobiles and radios on the partial payment plan. The 85 per cent. substitute desire for foresight. They define "thrif" as "a dollar down and a dollar a month." They embrace eagerly the opportunity to pay for the luxury, only to wail bitterly over expenditures for the uninvited necessity of medical care.

Establishment of pay clinics and diagnostic clinics in connection with medical schools and hospitals, still further restricted the field of the individual doctor though these departments are vital to high grade instruction. For the most part these institutions have confined their activities rather strictly to "people without means," and to this the profession offers no objection so long as the work is carried out in good faith. But, when dispensary clinics are frequented by the well-to-do who come in taxicabs, even the most "unbusinesslike" medical man soon becomes aware that this confidence is grossly abused!

For years large industrial organizations, like factories and railways, have furnished surgical relief to injured employees. This practice has so clearly a legitimate basis that the profession finds it unobjectionable unless the service is extended to the families and friends of the workers. Co-operative bodies like labor unions are also practicing medicine through medical bureaus with salaried physicians.

Medical centers for pay patients, often started for educational purposes, have frankly gone into the business of attending medically to anyone who applies.

The practice of medicine by organizations is, therefore, by no means new, and "medical men and medical institutions alike stand at the sharp line which divides two merging types of professional evolution—an old system built up by individual contributions and a new system made up of organized effort"—(Heyde). Such an emergency demands careful consideration before judgment is possible.

On the one hand, "scientific medicine must keep step with social progress, and not place itself at a disadvantage through overinsistence on tradition and traditional methods." On the other hand, medicine must remember that it belongs normally to the realm of private initiative and enterprise. To balance the two is difficult, for the principles upon which the profession of

medicine is founded are inherently hostile to its opportunities. There is always a conflict between individualism and altruism, a professional problem which the doctor knows and accepts in advance. But common wisdom would suggest that he do not let his idealistic brain deprive him of his livelihood—nor the children of magnanimity or philanthropy devour their own father!

Certain advantages of co-operative activities, under particular circumstances and for special purposes, can be freely conceded as just and progressive expansions of medicine. But co-operative forms must be as clearly differentiated from the corporate practice of medicine as charity is differentiated from profit-making practice.

The "corporate practice of medicine" is in fact a term somewhat difficult to comprehend or employ because it is used loosely and has never been accurately defined. A corporation has been explained as an artificial person created by law, consisting of one or more natural persons united in one body under such grants as secure a succession of members without changing the identity of the body, and empowered to act in a certain capacity or to transact business of some designated form or nature like a natural person.

Bouvier's Dictionary of Law states that "It may be laid down as a general rule that a corporation may, within the limits of its charter or act of incorporation, express or implied, lawfully do all acts and enter into all contracts that a natural person may do or enter into, so that the same may be appropriate as a means to the end for which the corporation was created."

Obviously such a ruling establishes legal powers so broad as to be unsafe to the community so far as it is applied to professional actions. For, under this interpretation, the butcher, the baker and the candlestick maker, together with John Doe and Richard Roe could incorporate—for instance—"The Law Extension Institute," and by hiring a group of indigent or mediocre lawyers at low cost could quickly build up a highly profitable law business through nationwide advertisements of their desire and purpose to bring legal service within the reach of the humblest litigant.

The right to practice law, however, is earned by hard study; it is attested by a certificate from the Supreme Court, and protected by registration. The practice of law is not a lawful busi-

ness except for members of the bar who have complied with all the conditions required by a statute and the rules of the courts. These conditions cannot be performed by corporations. The justice of this position is fortified by the honorable traditions of the bar, the welfare of the community, and by the evils which would follow the destruction of these restrictions.

The same reasoning applies to medicine. The ethics of the medical profession declare for equal opportunity and the equity of conduct between doctor and patient and between members of the fraternity; but corporations are not restrained by any canon or code of practice from soliciting business. Neither are they forbidden to pay commissions for having business referred to them.

The corporation employee is bound by the economics of business, and his relation to his employer and to the client is conditioned entirely by these rules. The economics of a profession and of science are necessarily different, because a different end is sought. Each is pertinent and expedient for its own purpose. It is foolish, and an inevitable cause of conflict, to apply the economics of one field to another for which the ethics are unsuited.

The practice of medicine is not a business, but a personal right, restricted to men whose good character and special qualifications have been ascertained and certified to after a long course of study and by license through a state board appointed for this duty. The right to practice medicine is a privilege earned by the individual and granted by the state for merit, and since these conditions cannot be met by a corporation, it is obvious that corporations cannot legally and should not morally engage in medical business for profit. Furthermore, to hire doctors or lawyers to carry out provisions of practice which corporations cannot legally or personally perform is a mere evasion which the state should not tolerate.

As the writer has stated elsewhere, even though such medical employee is well taught and reasonably competent, he has lost the essential relation which should exist between the professional man and his conferee. He has necessarily submerged his professional identity in an organization primarily commercial in character; an organization devoted to mass production which has

neither a conscience to guide, a body to kick, nor a soul to save.

The conclusion seems clear to the writer that the practice of medicine for livelihood is not the proper function of corporations, and should be opposed by the medical profession, not simply for its own welfare, but because the public need the best medical service which can be supplied—a service which in practice is furnished by corporations only under very unusual conditions and then only at the price of demoralization of the independent private practitioner, which would be and indeed is a public calamity.

The discussion of this point cannot be wholly convincing without concrete illustrations, and there is already at hand, unfortunately, a glaring example of corporate practice in actual operation which supplies a hypothesis.

Since this particular phase of corporate practice has endless possibilities not only for bringing confusion into medicine but a still greater confusion into the public mind, it seems necessary to present more of its aspects and potentialities for serious examination.

Let us take a city of magnitude and opulence wherein a young medical man arrives after the war, with an undoubted talent for organization and an unshrinking desire to make his fortune. He connects himself with a teaching institution, only to be dismissed for unprofessional conduct. He scrapes acquaintance with a grocer, a broker, a realtor, a manufacturer, a clothing merchant and other men of means and persuades them to join in establishing a clinic for venereal diseases. Allured by the promoter's promises these laymen form a board of trustees, adding to their number a lawyer who apparently does not sympathize with the efforts of his local Bar Association to abate the corporate practice of law through legislative enactment. The promoter becomes the Medical Director.

The clinic is incorporated as "not for profit"—ostensibly as a philanthropic enterprise to reduce the high cost of medical service and bring relief to all who may apply. A benevolent name is chosen. The doors open and the corporation begins to practice medicine. Being incorporated, the ethics of medicine have no significance and full page advertisements of social diseases are flaunted in the public press; advertisements so flagrant and so essentially a piece of quackery that the newspapers refuse to publish them un-

less the names of the honorable board of trustees are also given as a guarantee of good faith. This board is composed undoubtedly of honest individuals, conscious of the propriety of their intentions, but the very innocence of their motives as much as their ignorance leaves them completely at the mercy of their Medical Director. The advertisements appear therefore with their names attached and thus promulgate a public belief in the medical competence of the clinic, which the facts of its medical practice by no means warrant. A medical staff is assembled. Since high grade physicians can not be had the positions are filled from the ranks of the inexperienced, the financially embarrassed and otherwise unsuccessful members of the profession. Neither the staff men nor the Director belong to any reputable medical organization. These employes are all salaried, and graded in importance and value to the clinic by their zeal in co-operation with the schemes of the Medical Director and their speed in performance of their duties. This speed is checked daily at the Director's office and the number of cases per hour of each operator is published on the bulletin board. The men are urged by competition to do a maximum amount of work in a minimum of time. Erstwhile staff members allege that although the clinic is incorporated as "not for profit" no expedient is left untried which serves for the attainment of profit. The attendants are required to punch a time clock four times a day and a minute's tardiness is a serious offense. Stress is laid upon low salaried employes and large mass production and the efficiency of this mechanical treatment is still further weakened and degraded by the fatigue of the overworked human machine and the total absence of personal responsibility. Necessarily the patients suffer. Applicants for information are diagnosed as ill who are not sick and never have been. Prescriptions are issued for drugs which are not indicated. Instrumentation is used where it is not required, and instruments contaminated or incompletely sterilized convey infection from one patient to another. Extra items of technical attention and uncalled for procedures enhance the expense. Injudicious methods prolong the treatment in some cases, while in others the attendance is purposely protracted for commercial reasons. A patient who could be safely dismissed by a regular practitioner in from five

days to five weeks is kept under daily and tri-weekly treatment for five months. There are no free cases. Despite the philanthropic claim in the articles of incorporation, the *indigent are sent elsewhere*.

Through the inadvertence, ignorance or unskillfulness of the staff men, or possibly from the law of chances, complications arise which are referred to a specialist unofficially but no less firmly affiliated with the institution by a monthly bonus. This man exacts a sanguinary fee for his operation. That the alleged purpose of the corporation is to reduce the high cost of medical service apparently appeals to him merely as a pleasant philosophical speculation—if he thinks of it at all. This hypothetical case obviously has many aspects. The extensive advertising attracts a huge volume of business which enables the clinic to underbid the regular practitioner but the ostensible advantage in price to the patient is easily offset by protracted treatments. Under these conditions the clinic quickly achieves that commercial success, which is the aim of good business. The income grows steadily. The receipts exceed \$200,000 per year and a sinking fund of \$800,000 is established.

The medical profession protests strenuously that the corporation has no right to practice medicine; that such an act is beyond its legitimate competency, "*ultra vires*." Committee after committee meets representatives of the clinic and complains that the methods employed are unfair to the medical profession and unfair to the public. In these conversations the medical group insists that purely medical matters must be managed by medical men. They argue that a medical board should be appointed to supervise the personnel and treatments of the clinic and that advertising should be strictly educational in character and wholly under the control of this medical board.

The profession takes the position that the clinic is not in reality philanthropic and that it does not reduce the cost of medical service, since the Director can and *does* in all truthfulness boast that he gets more money from his patients than any regular practitioner.

The profession protests against the character of the advertising, the mass production methods, and the slovenly, unindividualized treatment. It maintains that the lack of conscience, of personal pride, and of ethical ideals in such a clinic

would always be incompatible with honest and competent medical service.

The profession represents that the large volume of business done by the clinic robs the medical schools of valuable clinical material, and denies the medical student an important source of instruction and that this in time would bring an inferior grade of treatment to the public service. It further maintains that under existing conditions the public is not benefited, but on the contrary damaged in purse, in morals and in health. The opinion was submitted that the sole basis of such unrestrained competition could only be the motto that "business is business," and that the clinic is engaged in catering to an economic desire as if no ethical criterion were involved or even remotely applicable.

The profession further asserts that such corporate practice is distinctly injurious, since efficiency and common morality cannot possibly exist where competition is unregulated. It contends also that such medical practice by a board of lay trustees with low salaried employes is pernicious and destructive to the general welfare.

Attention is called to the fact that while the clinic is incorporated as "not for profit," yet it is conducted on a wholly profit-motive basis and is building up a remarkable surplus for such a supposedly altruistic enterprise.

The profession affirms also that financial success is no more a criterion of medical ability in a corporation than in men; that corporate practice is by no means a guarantee of medical excellence; that a corporation can as easily mislead by its advertising as the individual charlatan; and that the example of the successful commercial clinic would lead to the formation of similar centers elsewhere. If in Illinois, why not in Texas or New York? If so profitable in venereal disease why not in diseases of the heart and lungs?

To advertise widely, to buy cheaply and in quantities are accepted principles of success in mercantile affairs. In America, the spirit which the Germans call "*Fordismus*" not only sets the views of life and the pace for business, but also strives to regulate the producers and the professions. Thus the action of the buyers for Sears, Roebuck, Henry Ford, and other chain-store or large unit production magnates in "remorselessly using every expedient to drive down the price of cotton fabrics and to place the bur-

den on the growers," as the Senate investigating committee reports, may explain the extraordinary *attention* and possibly the ultimate purpose of commercially trained philanthropists to reduce the legal and medical professions to *Fordismus*, whereby the marmoreal immobility of standardized mediocrity is perpetuated. In the medical corporation I am describing the lay trustees hold this view. The Trustees defend their passion for publicity on the ground that *soliciting* is an essential part of such a business, forgetting evidently that in large cities it is no more difficult to find a venereal clinic than the exciting cause for this necessity.

At all events in our present hypothesis the lay Board of Trustees is not averse to the arts of their Medical Director. The many valid reasons against the corporate practice of medicine fall upon deaf ears.

The protests of the Medical Society bear no fruit. The negotiations get so far and then something happens or someone acts to prevent further meetings with the committee. Is it the Medical Director? The profession is not informed.

The Medical Society persists, however, in spite of the unfriendliness and lack of success. Ultimately professional patience is exhausted and the matter comes to an issue. After repeated warnings to the consulting surgeon that his brazen violations of medical faith would bring him before the bar of the Society, charges are preferred against him and he is dismissed from professional fellowship.

That the sentence is just, is evident from the unanimity of the vote. That the penalty is severe is manifested by the frantic efforts of the culprit to escape. That the action is wise, is apparent from the universal approbation of medical authorities and discriminating laymen as well as the sequential effect in publicly ventilating the whole controversy; an effect which is neither foreseen nor intended.

The exemplary disciplining of this man focuses the attention of the people upon the vexatious and unfair conditions under which the clinic operates, and one of the philanthropic Foundations is moved to enter into the affair as an intermediary.

Through the influence of this body the lay Trustees at length evolve some understanding of the situation and take action. They select a

board of reputable physicians to co-operate in the task of bringing to their enterprise a belated but much-to-be-desired respectability. They begin to realize the significance of the principle repeatedly put forth by the Medical Society; a principle on which the whole profession has long been convinced, namely, that the practice of medicine by lay groups is socialistic, bureaucratic, inefficient, and totally at variance with American ideals. In fact, medical ministrations by untrained individuals or groups are an unfortunate innovation brought over to us from public health experiments which have failed in other lands. They are alien and unassimilable to America.

The Medical Board, by virtue of its warrant, now begins to function and the attitude of the clinic undergoes a change. It is proposed to reorganize it thoroughly and restrict its field of operation definitely to social diseases. The advertising, put under the censorship of the Medical Board, promises to become steadily less commercial and more educational in character until finally it ceases to be commercial altogether. The staff men are to be named by the Medical Board and consultants appointed to eradicate the flagrant medical faults and to improve and supervise the treatments. Plans are projected also for utilizing the patients in a measure for clinical instruction.

This all sounds promising and the sincerity of the proposals cannot be questioned, but whether it solves the problem in our hypothesis is doubtful so long as the outlaw Director is retained and if, as he declares, he can twist the Medical Board to his purposes as readily as he has beguiled his trustees. It is needless to add that the profession has perfect confidence in the Medical Board.

The distressing results of corporate practice in this hypothetical instance are the direct sequel to interference in medical affairs by men who are professionally untrained. The greater their purity of purpose the more readily are they victimized by smooth-tongued charlatans. Since a lay board cannot know the business of medicine, it is desirable that such a body should meddle as little as possible with those who do know it. Success in medical philanthropy demands whole hearted obedience to the rule that *medical matters must be managed by medical men*, and

these men furthermore must be in good standing with their professional brethren.

If it be urged that physicians are not good business men, it is far more true that business men are *not* good doctors. The conspicuous difference in attitude between business man and doctor lies in the fact that a medical man is astutely unwilling to mix in matters wherein his training is not justifiably adequate. In the management of his own practice the American doctor is unexcelled. The percentage of failures among doctors is far lower than among business men. In the management of hospitals during the war, or of medical groups, or wherever indeed the responsibility is put upon him, the physician achieves notable success. According to all the rules of good business, medical men should therefore have a large representation on hospital boards, yet this condition is rarely found. The situation is anomalous. By what strange alchemy does great wealth or a successful venture on the stock market confer upon anyone a comprehensive knowledge of disease or the ability to solve abstruse medical problems? How valuable is the testimonial of a member of the ministry or of the Association of Commerce on the medicinal excellence of the nostrum or patent medicine he feeds to his confiding family? All in all, about as valid as the opinion of a medical man on the fluctuation of stocks.

Under such conditions does it seem unreasonable that medical men should ask for support and championship which will prevent the threatened industrialization of medicine by mass production? Nay, more, should they not demand the introduction of some mites, moles and atoms of professionalism into business? The hypothetical case of corporate practice herein described is fortunately unique in lawlessness, but numerous degrees, grades and variations of breach in this great principle can be found wherever laymen, singly or in groups, undertake the practice of medicine through salaried employees. In fact there is no way in which such an organization can be conducted safely and fairly unless the advertising and the profit-motive be wholly eliminated and the clientage meticulously sifted.

What is the remedy? On the one hand is the overwhelming necessity of maintaining the private practitioner since there is no better means

of giving medical service to the American people than our professional individualists offer. On the other hand is the problem of caring for the 15 per cent. who need especial skill in diagnosis and treatment. Again people must turn to the medical profession rather than to a corporation of laymen who employ medical men on salaries regardless of whether such corporations be for insurance against illness, for the treatment of disease or as a philanthropic foundation which acts as a middle man between the doctor and his patient. In every case the doctor is the first essential. The doctor is the one, primary indispensable factor. If the health of the people is to be efficiently conserved, ambition, independence and a proper economic reward must be assured to this man.

This brings up the question of co-operative medical practice which in its most satisfactory form is represented by hospitalization and by medical groups.

The first requisite for the relief of the 15 per cent is the opening of more hospitals and the staffing of them by men of the highest class. If the community cannot do this, if the foundations will not, then the profession must undertake the work. The idea is prevalent that hospitals cannot be self-supporting under the hard conditions of standardization by external agencies. This is not true. There are many hospitals for pay patients, indirectly or actually under the management of physicians, that meet expenses while some even make a profit. These hospitals live without endowment and without the aid of charity except for their indigent clientele, and they fulfill adequately the hospital needs of their people. Many hospitals have been established in remote districts and they are paying their way. These institutions are controlled and usually owned by physicians, the alleged unbusinesslike physicians, who built them because there was no one else to do it.

The hospital is to the invalid what the court is to the litigant, the place where wrongs should be righted. Some patients go to hospitals from choice and others from necessity, but all get the best that science in that community can offer. Good hospitals can supply complete diagnostic and treatment facilities to all ethical practitioners in a given district.

Physicians who are uncertain about the con-

ditions which confront them can bring their patients to such a center and obtain a diagnosis and an interpretation of the findings, if necessary, without prejudice to such physician. After this service is rendered the patient can be turned back to his doctor for the administration of the treatment indicated. All types of cases can be received and none refused for economic reasons. Such hospitals should be endowed or so felicitously financed that the best service could be rendered for a compensation which is diminished but not pauperizing.

Next to the hospitals in importance are the combinations of doctors who unite in a kind of medical partnership so that superior service may be furnished at a minimum of expense. No doctor believes that he can acquaint himself with all the refinements of medical knowledge which modern scientific discoveries have made available. Intimacy with any one of the specialties is often the study of a lifetime.

Keenly conscious of this condition it will happen that a group of two or more men form themselves into an associative relationship which has an energetic functional utility and a common purpose without always a legal entity. Such an association of men for a shared design constitutes the only source of authority which carries with it an ethical obligation and the possibility of a moral co-agency. Such an organization shapes in subtle ways the values each member holds because it embodies his own particular interests, but the *sine qua non* of such a combination is a highly capable general practitioner.

With this qualification, group practice probably meets the demand for medical attention of the 15 per cent. as satisfactorily as the hospitals, but such a group must remain co-operative and *not become corporate*. There are hundreds of such groups which serve their respective communities and serve them well. In an organization of this kind there is a pooling of expense for assistants, equipment, laboratory supplies and other necessities, but in addition to these physical factors the heightened efficiency must be considered. The perplexing 15 per cent. secure the quick availability of the entire forces of specialists who compose the clinic and thus receive more satisfactory service at relatively less expense as the smooth technique of good

hospitals and well equipped groups amply exemplify.

These groups wield the power and influence which follow the integration of effort by similarly minded individuals, and develop an extraordinary mastery of disease problems. Their vitality and energy are activated by the same reason as individualistic medicine, but remarkably intensified.

It must be admitted that such groups have not yet been whole-heartedly accepted by the profession at large, but probably they offer one of the most effective solutions to be found of modern medical problems and a higher evolution is always possible. At all events they have the great merit of keeping the control of medical practice in the hands of the trained profession where it belongs. These group clinics are the chief contribution of medical men to co-operative medical practice, and if individualism in medicine must perish, which God forbid, then the next best thing for public health and safety will be group practice.

In all cases, whether co-operative or institutional, whenever associations are formed for the practice of medicine and whether for profit or not for profit, the code of ethics must be observed as strictly as by the individual.

Medicine must be practiced by doctors. If an institution is under the direction of a lay board of trustees, all purely medical matters must be managed by medical men. It is much safer for an engineer to have his hand on the throttle than one of the passengers who knows nothing about engines. The staff therefore should be of reputable physicians. Treatment administered should be indorsed and prescribed by medical men. The relations of the institution to other organizations should be controlled and the financial status of patients admitted should be under the supervision of medical men. The advertising, if any, and public communications of all kinds, should be only that which the strictest, professional rules permit. The solicitation of business by or for professions today in most of its aspects is a rank outgrowth of the acquisitive instinct which is irreconcilable with moral wisdom. Not only must the cost of publicity be added to the cost of medical care, but if *one* may advertise, all *should* advertise and in the confusion and chaos thus produced our sick and afflicted will be lured into the ministrations

of the man or institution with the largest purse regardless of ability or competence.

The requirements which medicine has laid down as a code of ethics are not matters of etiquette peculiar to the medical profession. They are such requirements as all professions strive to establish. Even the New York Stock Exchange forbids its members to advertise except by the publication of their names, their locations and the goods they have to offer. Such ideals distinguish the gentleman from the huckster.

The question of ethics, however, is most important to the medical profession because human life and heredity have a higher value to civilization and the community than property and patrimony.

The ethics of organized medicine is a creed rooted in the honor and unalterable principles of human relationship. "What you do not like when done to yourself, do not do unto others," said Confucius, and this maxim, reinforced by the precept and example of the First Christian has become a beacon light for civilization and a lode star for medicine.

The aspiration of the medical man takes that supreme form of morality which springs not from command nor obedience, neither from law nor curbs of convention, but rather from an aristocracy of the spirit; a morality alert to the threat of disaster but undismayed by its dreadful shadows.

With a serenity of soul superior to casual ambition, the physician seeks to bring about the alleviation of pain and suffering, the restoration of the sick, the protection of the weak, the resurrection of the fallen, the education of the people in the laws of health and prevention of disease and to bring light and hope into dark places like a sunbeam on a sullen sea.

A great corporation cannot feel a fervent charity but the individual physician will uphold the best traditions of his ancient and honorable profession unconfused by the sounding tides of strenuous endeavor. He alone is deeply aware of the instincts and wants in man which Earth and Time cannot satisfy, things of the spirit which point with uplifted fingers to the Golden Rule. Imbued with this consciousness he works out the salvation of man in a mood of vast desire untempted by remote and mystic rewards and undaunted by the Scowl of Fate.

30 North Michigan Avenue.

PATHOLOGICAL THYMUS IN CHILDREN FROM A ROENTGENOLOGICAL STANDPOINT*

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The thymus is a temporary organ, growing somewhat rapidly until it attains a considerable size, and then gradually dwindling until it is merely vestigial.

It is situated in the anterior mediastinum and lower part of the neck, between the lungs, in front of the heart, the great vessels and trachea, and reaching upward nearly to the thyroid. It appears at the end of the second month of intra-uterine life. At birth it measures 5 centimeters vertically and about 7 millimeters ventrodorsally and laterally; and it weighs about 12 grams. It is largest when the child is two or three years old, and its weight at that time is 24 grams. Thereafter it slowly and steadily atrophies, and has nearly disappeared by the fifteenth year, although traces of it may be discovered in old age.

It has a rosy hue in the fetus, is grayish-pink in the infant, and later becomes yellowish. It is soft and compressible, and sags out of shape by its own weight. It is vertically elongated and is largest below.

It has two lobes, approximately symmetrical—the right lateral and the left lateral—perfectly independent of one another. Each lobe has a delicate fibrous envelop, from whose visceral surface partitions extend inward, dividing the lobe into a large number of irregular, polyhedral lobules. If the envelop is cut between the lobules, the whole lobe can be unfolded, and the lobules are then found to be arranged around a central cord, close to which they are continuous with each other, but at the periphery of the lobe are free.

A lobule consists of clusters of little nodules, which are essentially lymphatic in character. Each nodule has a cortical and a medullary portion, the lymph-cells being more numerous in the former, and the latter containing peculiar cells (of Hassall) in nests, the large containing smaller. These medullary corpuscles are the

representatives of the epithelium of which the thymus originally was largely composed, before the invasion of lymphatic tissue. A capillary network surrounds the nodule.

As the gland shrinks away the interstitial, connective tissue increases, and multitudes of fat-cells are formed, the last fact accounting for the yellow tinge of the organ during this stage.

The arteries of the thymus are derived from the internal mammary, the thyroids, the sub-clavian, and the carotid. The veins run to the left brachiocephalic. The lymphatic empty into the superior mediastinal nodes. The nerves come from the pneumogastric and the sympathetic.

There are three types of glands depending

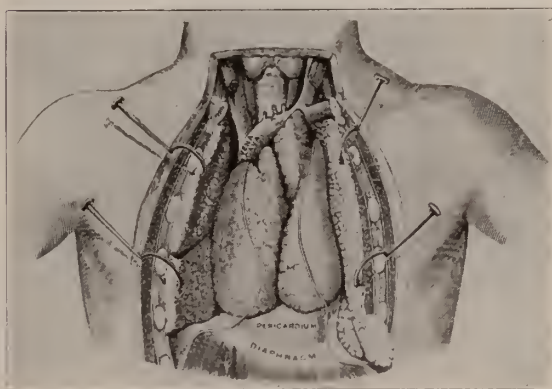


Fig. 1

upon situation, thoracic, cervical and cervicothoracic, the last being the usual.

Function: Much has been written and many experiments have been made in an effort to determine the function of the thymus, but at this time the entire matter is problematical. Theories have been advanced as to the thymus having an influence upon calcium content and growth of the bony structure. There is possibly a connection between the thymus and insufficiency of adrenals. Some investigators believe there is an elaboration of a thymic hormone. It has also been proven to the satisfaction of some observers that the thymus is not necessary to life and that thymectomy has no effect upon the growth and development of bone.

It is generally believed that the so-called status lymphaticus (general lymphoid hyperplasia) is dependent upon a pathologically enlarged thymus, but this is disputed. An enlarged thymus is always present in this condition, but

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what connection it has with sudden death from this cause has not been demonstrated. For many years it was believed that the thymus had some action intra-uterine development and in so far as I know this has never been disproven. No



Fig. 2

one knows very much about the subject so one man's opinion is just as good as the next.

Symptoms: Stridor, dyspnea, nausea and vomiting, extreme restlessness, failure to gain in weight, infantile eczema and inanition are often found together or separately in enlarged thymus.

Roentgenological thymus: What is a pathological, or enlarged thymus? Except in cases without physical findings, which are rayed as a preoperative precaution, there should be some definite reason for therapy aside from noticeable enlargement of the gland. However, I firmly believe that cases in which careful x-ray study shows enlargement of the thymus, that the patient should be treated whether or not physical findings are present. Any shadow in the upper anterior chest in children under eight years of age which cannot be accounted for by the shadows of the great vessels, should be looked upon with suspicion, particularly where the physical condition is below normal. I believe it is impossible to set any standard and say that all on one side are normal and all on the other side abnormal.

The production of satisfactory films particularly in children under three years of age will probably require the presence of the roentgenologist unless a very unusual technician is available. Even then the services of 3 or 4 adults may be necessary before satisfactory films are obtained. Many methods have been described for holding a "crying, kicking kiddie," but I have found that a natural love for children coupled with a modicum of patience and common sense is much more satisfactory and will more often avoid the necessity for retakes. Speed, of course, is essential and it is possible to secure satisfactory films in 1/10 second exposure.

It is our practice to make films in the anterior-posterior, posterior-anterior and lateral positions, the latter principally to show possible distortion of the trachea. The supine projection is always made first as it is often possible to get this position before the child knows what it is



Fig. 3

all about. By watching closely it is possible to secure absolute freedom from motion just at the end of respiration which is desirable in securing the thymus shadow with the least possible distortion. The child lies upon his back with the

arms at the side and the head in the normal semiflexed position.

The prone position is just a little more difficult as the young patient usually insists upon looking up to see what is going on and objects

sufficient importance to justify radiation. An attempt has been made to secure clinical improvement no matter whether there was marked decrease in the size of the shadow or not, with the least possible dosage. In many individuals in which there has been marked improvement from a clinical standpoint it has been impossible to secure follow-up films. As so often happens when the patient seems to be well, any further examination is considered superfluous by the family.

For many years we have felt that entirely too much value has been given to high voltage and large dosage and it has seemed to us that sufficient study has not been given to what might be accomplished with comparatively low voltage with much less risk to the patient, particularly when dealing with very young children. With this thought in mind the treatment of these cases has ranged from 50 P. K. V. upward, the time ranging from 1 to 4 minutes at a focal skin distance of 15 and 20 inches, with no filtration and 1 and 2 mm. of aluminum at 5 days to



Fig. 4

very seriously to having his face held down. It is also necessary to keep the arms below the shoulder in order to avoid any possible exaggeration of the superior mediastinal shadows.

Recently much has been written about the lateral position, but as stated above its main value is the visualization of the shadows of the trachea. As Bromer of Philadelphia has aptly said, the child's arms should be behind his back in order to bring out the shadow of the trachea. In follow-up films we have found the A. P. and P. A. positions all that are necessary.

It is of course necessary to make these films rapidly and we have found that 10 M. A. at a F. D. of 36 inches and 80 P. K. V. will produce satisfactory films in 1/10 second.

In this series of cases all have shown physical signs of thymus involvement, or findings which might be considered at least due in part to pathological change in this gland and the symptomless thymus was considered in only three cases. These were rayed as a matter of precaution before operation and were considered of



Fig. 5

1 month intervals. While the number of cases studied has been comparatively small, we believe we have arrived at what is a practical dosage in which any element of danger to the patient is eliminated. At this time we are using and ex-

pect to continue to use 100 P. K. V., 5 M. A., focal skin distance 15 inches for $3\frac{1}{2}$ minutes with 2 mm. of aluminum as a filter. This dose is repeated every seven days for three sittings and after a period of 30 days follow-up films are



Fig. 6

made. The thyroid is protected by 1 mm. of lead foil and the ray passes through an $8\frac{1}{2}$ c. m. portal to the upper anterior chest region. The dosage is considerably less than one-fourth of an erythema dose.

In a series of 64 cases with what were considered abnormal thymus shadows, ranging from 7 weeks to $6\frac{1}{2}$ years, 55 were treated.

- 12 received 1 treatment.
- 3 received 2 treatments.
- 29 received 3 treatments.
- 6 received 4 treatments.
- 3 received 6 treatments.
- 2 received 8 treatments.

It was only possible to follow up 20 of these cases, for as stated above when there was clinical improvement, consent for further examination could not be obtained. In these cases, 14 showed definite decrease in the thymus diameter, 4 showed no change in the x-ray findings, but satisfactory clinical improvement, and 2 were unaffected. In the 55 patients treated 53 showed

relief from the symptoms for which the child was referred.

Dr. Charles A. Aldrich of Chicago has compiled a series of 824 cases from 52 different sources which shows 739 carried to a successful conclusion through roentgenotherapy, approximately 90 per cent. cures. Our own small series shows 90 per cent. roentgenologically improved and 96 per cent. benefited from a clinical standpoint. We know very little about the real function of the thymus, but we do know x-ray therapy relieves all symptoms of pathological or abnormal change in the vast majority of cases. (I am indebted to Drs. Blatt, Bower, Wilkins, Sherry, McLaughlin, Geiger and Moore for the opportunity of studying the cases which make up this series.)

Under date of May 13, 1930, the Chicago papers carried the following item "Healthiest girl dies at Dentist's. L. F., aged 5, of Evanston was voted Evanston's healthiest child. She died



Fig. 7

yesterday in a dentist's chair due to heart failure attributed to her fear of having her tooth pulled. Because of her fear she was given an anesthetic and died on the table. A pulmotor squad worker for three hours, but she could not

be revived. A coroner's jury exonerated both doctors."

This case is typical of many which occur in all communities. The facts of this child's death suggest a pathological thymus and the vast ma-

diaphragm. After the second x-ray treatment at an interval of five days the physician in charge noted definite improvement, but there was still considerable dullness on both sides of the sternum and dyspnea and stridor were still present. In this case it was impossible to complete the treatment as the mother was not satisfied and went elsewhere.

Figs. 4 and 5. G. W., aged 30 months. Restlessness, cries a great deal after eating, pendulous abdomen, night sweats with definite dullness over the thymic region. X-ray examination shows definite enlargement of the thymus more marked on the right side. Patient was treated August 29 and October 7, 1929, the last cut having been made at the time of the last treatment. The child was very much improved in every way and the follow-up film shows marked improvement in the size of the thymus shadow.

Figs. 6 and 7. P. S., aged 5 years. This child was suffering with enlarged tonsils and adenoids and was referred on account of some increased



Fig. 8

jority of all sudden deaths in children at operation are due to the so-called status lymphaticus of which an enlarged thymus seems to play an important part. Whether or not an enlarged thymus is present may be very easily ascertained and if every child who is submitted to an anesthetic is rayed before an operation many lives could be saved.

In the following cases I shall attempt to show what is possible by the use of the x-ray as both a diagnostic and therapeutic measure, in cases with so-called pathological thymus gland.

Fig. 1. Is a dissection by Testut which shows the relation of the thymus gland to the pericardium, diaphragm and the great vessels.

Fig. 2. Illustrates a normal chest in a child at 2½ years at which age the normal thymus is largest.

Fig. 3. L. L., age 7 weeks. Marked dyspnea, infantile eczema, inanition and stridor. X-ray shows marked enlargement of both lobes of the thymus extending from the apices almost to the



Fig. 9

dullness in the region of the thymus. Treatment were given on May 13, June 5 and June 26, 1929, and follow-up films made on July 17, 1929. The thymic dullness had largely disappeared and the x-ray study shows definite im-

provement in the size of the thymus. This child was well nourished and of the extreme blond type. It is possible that had preoperative investigation not been made and had the condition of the thymus not been discovered before the tonsillectomy serious consequences might have arisen. As it was she went through her operation without trouble and is now a perfectly healthy child.

Figs. 8, 9 and 10. J. R., aged 6 months. Referred on October 15, 1929, with dyspnea and crowing when she cried with dullness in the thy-



Fig. 10

mus region on both sides. Otherwise a normal, healthy, beautiful youngster that might well have received a high rating at the ordinary baby show. She received treatments on October 20, November 11 and November 25, 1929. On December 11, 1929, there was definite improvement in the clinical findings, but x-ray examination showed no change in the thymus shadow. She received treatments on December 20, 1929, and January 31, 1930, and film made on February 19 as illustrated in cut 9 shows decided decrease in the size of the shadow and all symptoms had disappeared. On May 7 film was made as illustrated in cut 10 which shows the very marked difference since the examination of Oc-

tober 15, 1929. The child is apparently healthy in every way.

Conclusions: There are many theories as to the function of the thymus, but none of them have been proven and no one knows just what it is.

We do know that an enlarged thymus is often present in cases of indefinite and obscure symptoms and that an enlarged thymus gives rise to certain definite physical findings.

X-ray therapy in small doses is almost specific in most cases and in those in which little change can be demonstrated roentgenologically, very marked improvement is shown clinically.

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DISCUSSION

Dr. Maurice L. Blatt, Chicago: Probably no greater catastrophe can happen in a family than the sudden death of a well-developed, well-nourished, apparently normal child, a child that has been the pride of the group. Yet, exactly this thing does happen almost monthly in Chicago, and it happens in cases in which there is a symptomless thymus.

It is the symptomless thymus that one should mention. In these cases there is no accompanying asthma, pyloric spasm, no constipation; there is no eczema nor is there thymic stridor to draw one's attention to the gland. It is sudden death in this type of case which comes for minor operative interferences to which I should like to call your attention.

My first examination of a child is percussing the chest. Dr. J. Greengard, who is associated with me, goes over the chest of every new infant that comes into our office, and we frequently find a dullness to the right or both sides of the sternum. Dr. Stoerk of Vienna called our attention to the incidence of the enlarged thymus in suicidal cases. Schwartz, who was Hochsinger's assistant, first showed me the enlarged thymus under the fluoroscope. Hochsinger, I believe, was the first of the group to try radiologic therapy in cases of thymus, and Warthin credits him with having reported the first successful x-ray treatment of enlarged thymus. Prior to the time of Hochsinger,

Chevalier Jackson had done a long tube intubation on one or two of these cases showing symptoms and about the same time considerable operative interference had been attempted.

Charles Parker of Chicago had developed a technic for the removal of thymus in infancy that had stood the test of several operations and a number of other individuals in Boston and Philadelphia, particularly, had removed the thymus in infancy. The work, however, was very unsatisfactory.

As Dr. Gilmore said, the physiology of the thymus is unknown. But in many ways the physiology of all the other endocrines is comparatively unknown and our conclusions are drawn from the absence or disease of those glands. Our conclusions, for instance, in diabetes are drawn because of the disease of the bodies of Langerhans. It is not accepted by all scientists, and there is a dispute as to the etiology of the thyrotoxic process.

So with the thymus we do not know its physiology but we do know that x-ray therapy, radiation over the thymic region protected in the manner which Dr. Gilmore has described, reduces the size of the thymus. Whether the changes in the blood and the changes in the individual are secondary to that radiation, or whether radiation applied elsewhere in the body might not have similar effects, we are not prepared to say. There are men who radiate the pylorus for vomiting associated with the enlarged thymus, and claim satisfactory results.

There is a distinct relationship between the unstriated muscle and the thymus. The bronchial asthma is a spasm of unstriated muscle and constipation is a spasm of unstriated muscle which can be controlled by thymic radiation. This experience is not mine alone, but Dr. Aldrich, to whose paper Dr. Gilmore has referred, reported a large number of cases of his own in which identical results were obtained.

My plea in this discussion is a plea to you as radiologists to influence the physician in your community to have his new-born infants examined for thymic enlargement before they leave the hospital, to use x-ray therapy in those instances where the thymus is apparently pathologically large. X-ray and reduce the size of the child's thymus before doing any surgery that is not of the emergency type.

The relationship between status lymphaticus and enlarged thymus is close. The first case of death from status lymphaticus was in Professor Langerhans' own child in whom during a minor operation death ensued. In our cases we have seen many instances in which tonsillar tissue is distinctly decreased in size after radiation over the thymus, and we believe that it is part of the picture of a decrease in the general lymphatic enlargement which comes with treatment of status lymphaticus and which we cannot explain. There is an opinion that our radiation over the thymus affects the hormones of the parathyroids. We certainly are in

no position to prove differently. We can only say that so far as we know we are protecting the parathyroids. If the radiation over the thymus produces systemic results, then it is possible there is a parathyroid stimulation and a loss of this spasm characteristic of the enlarged thymus.

I have had two cases in which something unusual occurred. One of those Dr. Blaine may still remember. A doctor's child who had had a number of treatments was not progressing properly. He went to Blaine, who gave him a treatment and generalized petechiae resulted. He then left Chicago and went to Iowa City. When he was filmed three weeks later the thymus had entirely disappeared.

Another was a case I saw at Michael Reese Hospital in which a new-born infant had a very large thymus with thymic asthma. We gave the child a single treatment. Later the child developed a Herxheimer reaction and was seriously ill. Adrenalin was given and the child recovered, but it died several months later. Postmortem showed a sarcoma of the thymus.

I want to call your attention to one other symptom that we think is of importance. That is a tendency to exophthalmos in many of these infants with enlarged thymus. It seems to disappear after treatment. As you know, many of the endocrinologists believe there is a relationship between status lymphaticus and toxic goiter of adult life.

Dr. Isaac Gerber, Providence, R. I.: 'I was very much interested in this paper. There is no point in repeating anything that has been said, but I might emphasize one or two aspects which have not been touched on particularly.

One is the matter of treatment of infants with symptoms but no visible thymic enlargement. That is the situation I run into quite frequently. I am consulted many times in connection with the babies who are born at our large Lying-in-Hospital and hardly a week passes that I do not see a child with symptoms of thymic disease where it is necessary to make a differential diagnosis between intracranial injury and thymic pressure. It is not easy going over all that with the pediatricians many times and when they get all through, even with lumbar punctures, all too frequently they are not able to make a positive diagnosis of intracranial hemorrhage or thymic disease. We take x-ray films, or perhaps we have an opportunity to fluoroscope the child as well, and we do not see anything at all; that is, we see no enlargement of the supracardiac shadow.

Now the problem comes up, are we to give that child radiation or not? It has worked out pretty well that if symptoms under any circumstances could be attributable to thymic pressure it is desirable to administer some radiation regardless. With intracranial hemorrhage the mild amount of radiation that is administered to the thymic region is not going to do harm. If by chance there happens to be some remnant of thymus that is pressing and does not happen to show

itself in the routine x-ray you are going to improve that.

The satisfactory aspect of all this work has been in the number of cases we have seen improved, and the improvement will come within twenty-four hours, especially when radium is used. In very acute cases I prefer the use of radium rather than x-ray because it seems to be more prompt. But if we at least relieve the thymic element we are doing our duty.

So it has become more or less a general principle in this type to treat not a visible thymus but treat a patient who has symptoms. If the symptoms are significant we feel the treatment should be given.

Dr. I. S. Trostler, Chicago: Dr. Gilmore's paper is an exceedingly good one and should be read by every general practitioner. Most pediatricians and all radiologists know about the thymus, but the general men do not.

We should always be on the lookout for enlarged thymus in infants particularly in those born prematurely and those apparently poorly nourished. Heavy breathing, crowing inspiration, failure to thrive when apparently on good nourishment, etc., should immediately suggest to the physician in charge that an enlarged thymus is present.

Slight enlargements frequently produce marked symptoms. This is probably due to the elasticity of the infant's thorax and the possibility of marked engorgement occurring in the thymus, with the consequent increase in intrathoracic pressure. The thymus enlarges greatly when the baby cries, so when making roentgenograms crying should be encouraged rather than stopped, as is usual in practically every other roentgen procedure.

The importance of the enlargement of the thymus during crying should not be lost sight of, because if the films are made with the thorax in repose, slight enlargements may be overlooked, whereas, these would be much more likely to show if the child were crying. The roentgenogram is the only absolutely reliable finding to which a positive diagnosis may be hung in enlarged thymus.

A. C. Singleton, in the Canadian Medical Association Journal of January, 1930, No. 22, page 23, said that in a series of ninety-five apparently normal newborn infants *thirty-five per cent. showed enlarged thymic shadows* on x-ray films. The size fixed for the normal child has a maximum width of 3.5 cm. Donaldson and Barnes, in the Journal of the Michigan State Medical Society for January, 1930, regard sixty per cent. of thoracic breadth at level of root of second rib as abnormal. This is a very good method of classification, but often *small thymi cause marked symptoms*.

In adults, various and numerous symptoms may be present. Stridor is not so often found in adults as it is in small children, but may occur in the presence of slight colds, bronchitis, and the like. A tendency to croupy attacks, bronchitis and a more or less brassy cough are frequently found to accompany a large thymus in adolescents and young adults, as well as

older ones. Certain skin findings always prompt me to study the thymus. This is particularly true of psoriasis, and I have lately made it a rule to always treat the thymus in every case of psoriasis under my care.

I have had forty-seven cases of enlarged thymus in adults to treat with roentgenotherapy, and in every one relief has resulted. Many of these had asthmatic symptoms, while some had various other findings. Three of these came to me with a diagnosis of aortic aneurysm from roentgenograms made by physicians who were not radiologists and who misinterpreted the shadows. Two of these were alleged to have been confirmed by fluoroscopic findings of expansive pulsation.

I find that adults require considerably more radiation than do children and infants to produce effect upon the thymus.

Dr. Gilmore asked me to show some of my cases in adults.

(Slide 1, B. M., age 39.) A thick set asthmatic and psoriatic, with a large thymus. Treatment of thymus gave marked relief from asthma. Psoriasis also relieved, but he stopped treatment after asthma was relieved.

(Slide 2, F. D. S., age 45.) A robust, thick set man, who complained of asthma in damp weather only. Treated in 1925, and after a year in Chicago without an asthmatic attack, left for Africa where he stayed in the deep part where rubber is produced without recurrence of asthma.

(Slide 3, Dr. S. B. S., physician.) Thick set and apparently vigorous, but has asthmatic attacks. Three treatments in 1925 cured his asthma.

(Slide 4, Dr. C. S., physician.) Examined for heart as he had been told that he had an aneurysm of arch of aorta by another radiologist. Had no symptoms.

(Slide 5, P. M., age 25.) A tall, slim baker with Basedow's disease, pulse 140, exophthalmos, tremor, goiter. Basal metabolism plus 60. Treated in 1923 and in four months was minus 5 basal metabolism. No recurrence.

(Slide 6, M. K., age 40.) Basedow's disease with large thymus. Basal metabolism 39 plus. Treated in 1926 and after same had basal metabolism plus 10 and stays put.

(Slide 7, Mrs. H. S., age 35.) Toxic goiter with large thymus.

(Slide 8, Miss G. M.) Toxic adenoma with large thymus. Treated thymus and toxicity disappeared.

(Slide 9, Mrs. A. W., age 50.) Basedow's disease with large thymus. Gave one series of treatments in 1926, after which she deserted me and received x-ray treatment from a man who gave them to her for \$5.00 each. She returned to me in 1928 with a basal metabolism of 70 plus, very slight goiter, no exophthalmos. Four real treatments to thymus region caused basal metabolism rate to lower to normal.

(Slide 10, R. A. S., age 31, dentist.) Basedow's disease. Had been operated on and had basal metabo-

lism of 59 plus, when he came to me in 1927. Now he is well.

(Slide 11, Mrs. C. K., 65.) Basedow's disease and large thymus. Very toxic. Treated mainly to thymus region in 1924 with good results. Still alive and well in January, 1930.

Dr. M. I. Kaplan, Chicago: I had an interesting experience with one case. We have been treating quite a number of cases for thymus, giving the same dosage to all patients. This case presented itself about two months ago, a child nine weeks old having all the symptoms of thymic enlargement. The usual exposure was given on a Saturday afternoon about two o'clock; that evening I was called and told that this child's symptoms had increased. A pediatrician was called in and he stated that the symptoms seemed exaggerated. The patient was sent to the hospital, where I saw the patient. By that time the dyspnea had decreased a bit, yet it did look like a Herxheimer reaction.

Upon examination we noticed quite a lot of edema around the neck, and in going over the chest we thought we found a condition that made us think of bronchial pneumonia. The child was kept at the hospital, watched carefully, x-ray exposures of the chest made daily, and at one time a definite shadow was found in the upper right lobe which was diagnosed as lobar pneumonia. The patient was treated accordingly. The coughing stopped on Sunday, about twenty-four hours after the treatment, and the patient was apparently getting along nicely. Then all of a sudden the patient took a turn for the worse and the x-rays that were taken showed there was some resolution of the pneumonia, but the picture looked more like a lung abscess and a diagnosis of the lung abscess was made after the case seemed to have cleared of pneumonia. Before the patient died a needle was inserted and a syringe full of pus was aspirated. The patient died about an hour later, or three weeks after the x-ray treatment.

The question that was put to me was whether the x-ray exposure had anything to do with the pneumonia, whether pneumonia had been brought on by the x-ray, or whether the patient was already infected. I tried to clear myself as best I could, and I could not see where the x-ray had anything to do with it.

By the way, the thymic enlargement had gradually subsided and finally was not visible on the film.

Dr. Wilbur H. Gilmore, Chicago (closing): I have very little more to add. The study of the thymus fluoroscopically is, of course, very valuable but it has the failing of all fluoroscopy, there is no permanent record.

I have never had any difficulty in getting the child to cry, in fact, that is the usual condition, but I can see no advantage in having them do this if they will remain quiet. In this investigation I think the condition should not be exaggerated.

The case recited by Dr. Kaplan I feel sure is a coincidence. There might have been some reaction from the x-ray therapy but in my opinion the x-ray had absolutely nothing to do with the untoward result.

SARCOMA OF THE BLADDER* REPORT OF A CASE

LOUIS D. SMITH, B. S., M. D.

CHICAGO

The incidence of bladder sarcomata impresses one with their rarity, and especially so when one analyzes the literature, omitting the repetitions encountered in the collected cases and personal observations in bladder tumors.

Geraghty found but 2 in 180 cases of bladder tumors. Gardner found 7 in 369 cases operated on by various urologists and in 1702 collected cases of new growths of the bladder. Watson reports 52 in 653 collected cases and 2 in 134 of his own.

Munwes collected 107 cases reported from 1638 to 1913. One case of sarcoma was found in the series of 262 cases treated at the Mayo Clinic, as reported by Scholl. Caulk in 303 cases of bladder tumor found but 1. Albarran reported but 2 in 89 cases of bladder tumor. Steinmetz collected 13 sarcomata in 32 bladder tumors occurring in children. Poznanski in 1914 collected 115 cases. According to E. C. Smith, 4 to 5 per cent. of primary malignant tumors of the bladder are sarcomata. Stein estimated that 0.25 to 0.76 per cent. of primary tumors of the body occur in the bladder, and of malignant tumors 3.9 to 7.6 per cent. occur here.

Sarcomata are 4 times more frequent in the male, and occur mostly in the first and after the fourth decades.

Sarcomata of the bladder are extremely malignant. In the early stages they are small, single, sometimes pedunculated but usually sessile with broad bases. In 93 of the 115 cases collected by Poznanski 23 were pedunculated, 51 had broad bases and 19 were infiltrating. They are soft, friable, sometimes villous, but ulceration is rare, occurring in 7 of Poznanski's 115 collected cases. Infiltration and extension to neighboring organs are common. At times they are multiple and as such are considered by some as regional metastases instead of implantations or individual growths. The growth may be smooth in one place and villous in another. Normal mucosa may cap the growth, and the inva-

*Read before the Chicago Urological Society, Nov. 26, 1929.

sion of the mucosa gives it the villous appearance.

As to metastases opinions differ. Scholl says they are extremely frequent. In 46 autopsied cases collected by Munwes metastases were found in 50 per cent. Mixer says they do not metastasize. Albarran in 53 cases found only 7 with metastases. Concetti reports 1 with metastases in 42 cases in children. Ewing says metastases occur earlier than in epithelial tumors.

Sarcomata of the bladder may assume any type characteristic of its mesodermic origin: Angiosarcoma, myxosarcoma, myosarcoma, round



Fig. 1. Showing whole urinary tract—left kidney opened.

cell, spindle cell, lymphosarcoma, fibrosarcoma, osteochondrosarcoma, mixed tumors of meso and epithelial origin.

Lenormant reported an epitheliosarcoma of probable allantoic origin. It presented in parts a sarcoma with fusiform cells, and in parts epitheliolated or alveolar tubules and cylindric cells. It appeared in the neighborhood of the urachus in the superior pole. Gussenbauer and Billroth described a myo-sarco-carcinoma. Albarran described an adenosarcoma. These growths are certainly derived from allantoic rem-

nants at the bladder dome. Some cases reported sarcomata undoubtedly were not. Fenwick's case of round cell sarcoma was found by Targett to be simply round cell infiltration in a fibropapilloma.

Cecil's analyses of location of sarcoma gives these figures:

Anterior bladder wall	42
Right lateral wall }	
Left lateral wall }	33
Base	51
Trigone	50
Vesical orifice	16
Ureteral orifice	2
Whole bladder	3
Urachus and upper bladder	1

In Cecil's case the trigone and vesical orifice were not involved. This is interesting in view of the statement of Caulk that sarcomata are localized entirely in the trigone. It is true that embryologically this should be so, for the trigone is mesodermal in origin, being derived from the lower end of the Wolffian Duct. The rest of the bladder is derived from the entodermal cloaca. Quoting Caulk, "the tumor is a defect in 'tissue-combination' between the mesoderm of the Wolffian Duct and entoderm of the primitive cloaca. . . . The allantois and urachus cannot give rise to a sarcomatous tumor of themselves, but the mesoderm of the body stalk which is continuous with the mesoderm of the umbilical cord, may give rise to a myxoma. The so-called cases of sarcoma of the urachus have been mixed tumors. . . ."

According to Albarran sarcomata arise more frequently in the anterior bladder wall than do epithelial tumors, and Ewing describes the commonest location at the junction of the trigone and bladder.

The symptoms are similar to those of the epithelial tumors. Hematuria, frequency of urination, pain and so on. There seems to be this difference, that after the onset the course is very rapid. According to Munwes, evidence of the duration of the growth is less than one year before a diagnosis is made. E. C. Smith's case developed symptoms only 10 weeks prior to consultation. In the case I am reporting, the first symptom developed only 3 weeks before the operation.

The course after operation is as a rule rapidly fatal. Quoting Munwes in 69 cases, 38 died soon after operation, and only 3 were considered cured, having been traced for 5 to 13 years. In Albarran's 26 collected cases, 13 died as a result of the operation and 10 had rapid recurrences. E. C. Smith's case died 3 days after operation and metastases were found in both kidneys. Gardner reported that 6 out of 7 cases in a series of 369 operated on by various urologists, died shortly after operation, the 7th living 4 years after. Watson found that in 35 operative cases 22 died at operation or immediately after.

The treatment of this highly malignant tumor is unsatisfactory. X-ray radiation and radium are of no avail. Electrocoagulation gives little hope even in the pedunculated type, as one cannot be certain of the extent of the involvement of the submucosal or muscular structures wherein the growth originates. Cecil's experience would tend to show that a liberal resection of the bladder wall in an early recognized case may offer some promise of cure, especially if we believe that metastases is slow and infrequent.

The case I have to offer is no different than other cases already presented. In its course and end it is typical of the nature of the tumor. Had I recognized the nature of the growth, I should have certainly done a partial cystectomy. It is true, that on opening the bladder, the case aroused doubt in my mind that it was an epithelial tumor, but its pedunculated structure prompted me to resort to simple electrocoagulation.

A. B., age 48, tinner by occupation. Referred by Dr. Mead. Entered hospital October 11, 1928, with the following complaints:

1. Hematuria, duration 3 weeks.
2. Dysuria, duration 1 week.
3. Nocturia, duration 3 weeks.
4. Pain over both kidney regions, duration 3 weeks.
5. Diminished force of urinary stream.
6. Loss of weight 10 pounds in five weeks.

Onset and Course: Patient was perfectly well until about three weeks before entrance, when he began having pain and burning on urination, at first not severe. During the first week he noticed that the urine was very bloody and also that there was a diminution in the strength of the urinary stream.

For the past three weeks the patient has had to get up at night two or three times, and the act of urination was very painful. Had mild ache in the region of both kidneys for the first few days of his illness.

Past History: Medical, surgical and venereal negative.

Family History: Father and mother died of old age. Two brothers and one sister living and well. No history of tuberculosis, cancer or heart trouble.

Respiratory, circulatory and gastro-intestinal systems—no complaints.

Physical examination reveals a well nourished white male about 45 years of age, who does not appear sick.

Head, negative. Neck, no palpable glands. Lungs, heart, abdomen and genitalia negative. Reflexes normal.

Cystoscopy October 11, 1928, revealed a very large growth, whose base could not be outlined, attached to the fundus of the bladder. On the right lower border of this growth a freshly bleeding spot was seen. The top of the growth appeared like the head of a toad-stool.

A blood examination October 11, 1928, showed reds 4,001,000, hemoglobin 85%, leucocytes 14,200, neutrophils 72%, small lymphocytes 21%, eosinophiles 1%. The Wassermann was negative.

Cystotomy, October 12, 1928.

On opening the bladder a growth the size of a large mushroom was seen. The surface or head of the growth was very friable and showed an area of necrosis about 2 cm. in diameter. The growth was pedunculated, the pedicle being one and one-half centimeters in length

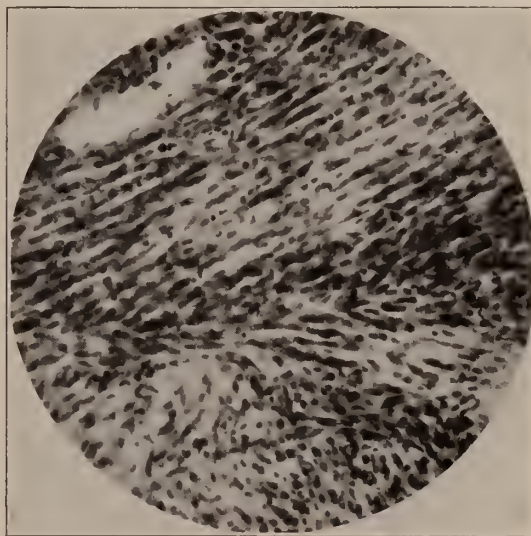


Fig. 2. High power—typical spindle cell sarcoma.

and about one and one-half centimeters in diameter. The growth was situated on the left lateral wall of the fundus and did not involve the serosa of the bladder. The growth was removed by electro-coagulation.

Postoperative Course: Normal until October 20th, when a peculiar granulation appeared in the wound. October 26th a bloody drainage appeared. Temperature normal. October 28th pain felt in incision; profuse bloody urine through wound. October 30th severe pain in bladder and urgency present. November 2nd, blood in urine subsiding. November 4, temp. 100.4, pulse 120. Resp. 24. November 5th violent hemor-

rhage from bladder. Pain severe, temp. 99.6. November 6th, urinated a little for first time, and this was bloody; moans with pain. Biopsy from wound and bladder diagnosed as sarcoma. X-ray of chest was negative. Highest temp. from 6th to 11th was 100.4. November 12th fresh hemorrhage. November 14th temp. 101.2. Pain so severe as to require morphine. November 16th, temp. 102; agonizing pain in penis and bladder. Pain almost constant. November 21st involuntaries, axillary temp. 99.8. November 22nd temp. rose to 101.8, pulse 100. resp. 18. Lapses into semi-comatose states of short duration. November 23rd axillary temp. 103.2, pulse 140. Cheeks sunken with a flush. Condition looks serious. November 24th comatose most of day, temp. mounting rapidly to 105.6 rectally; pulse perceptible. Died at 5 P. M.

Autopsy performed by Professor E. R. Long of the University of Chicago.

Gross: Sarcoma of the urinary bladder with extensive infiltration of the bladder wall and prevesical tissue and partial obstruction of the prostatic urethra. Recent supra-pubic cystotomy. Tumor extension in the adhesions at the site of the operation. Tumor metastases in the hypogastric and lower periaortic lymph nodes. Free tumor and blood clot in the urinary blad-

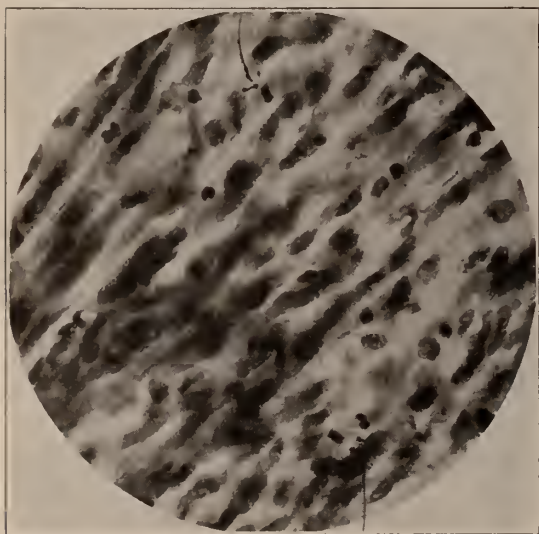


Fig. 3. High power—arrows indicate mitoses.

der. Bilateral uretero-pyelitis and early right pyelonephritis. Acute splenic swelling. Parenchymatous degeneration of the kidneys. Parenchymatous and fatty degeneration and focal necrosis of the liver. Fibrous scar in the apex of the upper lobe of the left lung with apical fibrous adhesive pleuritis. Calcification of one right peribronchial lymph node. Pyorrhea alveolaris.

External Appearance: The body is that of a tall well-developed man of about 50 years of age, brown hair turning slightly gray. There is no icterus. No discharge from the ears, nose and mouth. There is a good deal of pyorrhea about the mouth. The cervical,

supra-clavicular, and axillary lymph nodes are not enlarged. The external genitalia are normal. There is no edema. There is a draining supra-pubic cystotomy wound, the upper portion of which is healed and for a distance of 6 cm. in the lower part of this wound there are masses of tumor and granulation tissue.

Abdominal Cavity: There is about $1\frac{1}{2}$ cm. of fat in the midline. Peritoneal surfaces are smooth and shining and show a noticeable dryness. The appendix is normal and bound down by fibrous adhesions. The mesenteric lymph nodes are not enlarged but the retro-peritoneal lymph nodes are enlarged.

There is a mass with adhesions in the pelvis. The liver is at the costal margin and the gall bladder is free. The spleen is free.

Pleural Cavity: Costal cartilages are not calcified. There are easily torn fibrous adhesions at the left apex. The left pleural cavity is free from fluid. The right pleural cavity is free from adhesions and fluid.

Pericardial Cavity: Pericardial cavity contains a normal amount of clear straw colored fluid. The pericardial surfaces are smooth and shining. The heart is distended and is stopped in systole.

Mouth and Pharynx: The mouth shows some pyorrhea alveolaris, otherwise normal. The pharynx is normal.

Larynx and Trachea: The trachea and left main bronchi are normal. The right, however, contain a bloody fluid.

Esophagus: The esophagus shows no changes.

Heart, Aorta and Vessels: The heart has stopped in systole and is slightly enlarged, the right side being distended. The tricuspid, the mitral, pulmonary and aortic orifices are normal. There is no sclerosis of the coronary arteries. The myocardium of the left heart is normal, measuring 12 mm. Aorta shows a little thickening around the mouths of the intercostal and abdominal branches, but otherwise no changes.

Lungs: The lungs collapse well. There is a puckered scar overlying a fibrous scar in the upper lobe of the right lung. The cut surface of the right lung shows nothing abnormal, there being no edema or consolidation. The left lung is similar to the right and shows no gross abnormalities.

Peribronchial Lymph Nodes: The left peribronchial lymph node is calcified. The others are normal, showing no tumor metastases.

Liver: The liver is increased in size, estimated weight being 2100 grams. It is soft. The cut surface shows periphery of the lobules rather pale and the central portions can be easily seen. The lobular markings are well preserved. At the junction of the two lobes there are some slight areas in which the lobular markings are preserved but the tissue resembles tumor tissue, and these areas are firmer than the liver tissue. Sections of liver sink readily in water. These areas are wedge-shaped. The gall bladder contains a dark thick bile. The bile passages appear to be normal.

Spleen: The spleen is large, weighing about 300 grams, and is very soft. The cut surface is of a pale

brownish purple. The Malpighian corpuscles can be seen.

Pancreas: Shows no gross abnormalities.

Gastro-Intestinal Tract: The mucosa of the stomach shows no changes except the rugae, which are prominent. The pylorus shows no changes; the duodenum is normal.

Adrenals: The adrenals are rich in lipid.

Kidneys: The left kidney is surrounded by a considerable amount of peri-renal fat and is enlarged and soft. The left kidney is otherwise normal. The lobular markings are well preserved. The cortical markings are well preserved. The cut surfaces bulge. The pelvis is injected and the mucosa is smaller. Small granules project from the surface. The right kidney resembles the left. The pelvis is somewhat distended. This kidney is more swollen than the left. The cortical markings are to a considerable extent obliterated and occasional streaks are found in the cortex. The capsule strips easily, leaving a smooth surface. In this case the pelvis is more injected.

Urinary Tract: Both ureters are much dilated. This dilatation is very marked in the lower third of both ureters. The perivesical tissue is much infiltrated. There is a large mass of necrotic tumor tissue lying free in the lumen of the bladder and numerous similar

mass, papillary in structure 2x2x1 cm. obstructing the orifice of the prostatic urethra. There is much superficial necrosis of the bladder wall and the prevesical tissue is infiltrated in various places. The mass within the center seems to be tumor cells in a blood clot.

Generative Organs: The prostatic urethra is normal below the mass mentioned. The testes show no significant changes.

Lymph Nodes in General: The hypogastric and lower periaortic lymph nodes are enlarged and the normal tissue largely replaced by tumor tissue. The inguinal lymph nodes are hyperplastic. There are no significant changes in the lymph nodes elsewhere.

Brain and Meninges: The brain and meninges were not examined.

Spinal Cord: The spinal cord was not examined.

Muscular System: Well developed.

Skeleton: The skeleton is normal.

Histology: The tumor is composed of a solid mass of large spindle cells with a moderate amount of cytoplasm, although vessels are not numerous. There is no necrosis. Mallory's stain shows delicate collagenous fibers between the tumor cells.

Kidney: Much protein and occasional casts in the tubules, otherwise no marked changes in the left kidney. Slight diffuse fatty degeneration of the epithelium.

Testicle: Shows occasional small scars and absence of spermatogenesis.

Liver: There are numerous small sharply defined areas of necrosis of the liver cells completely replaced by polymorphs without evidence of suppuration. No other changes and no tumor cells are found. Moderate diffuse fatty degeneration shown by Scharlach R.

Spleen: No marked changes.

Adrenal: Abundance of lipid material. No abnormalities.

Myocardium: Shows an occasional fibrous scar. No other changes.

Lung: Shows atrophic emphysema and moderate anthracosis. No other changes. No tumor tissue.

25 E. Washington.

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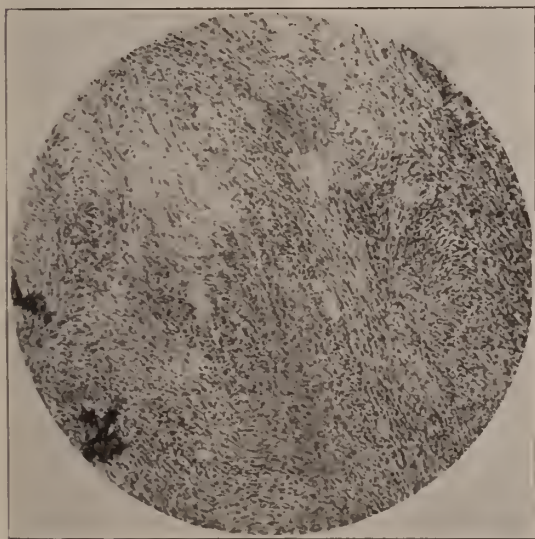


Fig. 4. Low power—showing typical spindle cell sarcoma.

partially necrotic masses arising from various sides of the wall. The main mass is in the lower posterior part, and projects into the lumen in polypoid fashion. The surface is smooth, although partially necrotic and gangrenous. The contents of the bladder are foul smelling. The substance of the tumor and its extensions is soft and friable and yellowish white. The anterior wall of the bladder is extensively infiltrated, and tumor tissue extends through the adhesions at the site of the old operation so as to appear in soft round masses above the cystotomy wound. There is a projecting

OPERATIVE MEASURES IN THE TREATMENT OF LOW-BACK PAIN*

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Undoubtedly there exists a large class who complain of low-back pain and who are rendered partially or totally disabled by affections of the lumbosacral region, regardless of the persistent employment of conservative measures, as apparatus, eradication of foci, etc. This type of patient is a serious industrial problem, for which a solution has been attempted in well selected cases by operative procedures, the object of which is to unite by osseous fusion certain affected joints.

No attempt will be made to enumerate all the well known operative measures, but only those employed by me in thirty-six cases, in which a survey has been made as a basis of this discussion. The technic of an extra-articular procedure for inducing osseous fusion of the sacro-iliac joint, and also the lumbosacral articulation, was reported in *Surgery, Gynecology, and Obstetrics*, August, 1927, and will again be described in detail.

In so short a time it would not be possible to engage in a full discussion of this complicated subject, but sufficient time will be spent to consider the various common entities from which symptoms in this region may arise. These may be enumerated as follows:

1. Infection.
2. Trauma.
3. Congenital anomalies.
4. Postural defects.
5. Intestinal stasis.
6. Anomalies of the pelvic organs.
7. Intraspinal lesions.

A careful physical examination is first made to determine, if possible, the exact location and the nature of the pathology, after which symptoms relative to intestinal stasis, anomalies of the pelvic organs, and intraspinal lesions must be excluded, or when associated, must be relieved before surgical measures on the spine are considered. If these are excluded, there remain only four of the above enumerated factors in which surgical measures are indicated: 1. In-

fection; 2, Trauma; 3, Congenital Anomalies, 4, Postural Defects.

Careful differentiations must be made between lesions of the lumbosacral region and the sacro-iliac joints, but as these articulations are so closely associated anatomically, any severe injury or infection may involve the three joints and render differentiation as to the exact location of the abnormality or pathology difficult, and at times impossible.

Infection, in my opinion, is the chief etiological factor causing symptoms referred to the lumbosacral and sacro-iliac regions. Trauma is often the instigating factor, but unless very severe and of a most definite nature, is of secondary importance. Even when severe trauma is the causative agent, the possibility of an associated infection from some distant focus must be considered. This is of especial importance in those past 35 years of age.

Actual sacro-iliac relaxation or separation is of great rarity, though it is much discussed, and frequently diagnosed. I have had the privilege of examining many thousands of backs, normal and abnormal, and have never been able to elicit the slightest evidence of sacro-iliac relaxation or separation. The only cases of separation that I have seen were those in which there was gross displacement apparent in the roentgenogram, following such injuries as being caught between two box cars, falling from a horse, or being run over by an automobile. I personally doubt whether sacro-iliac separation or relaxation, as a clinical entity, really exists, except in severe injuries and rarely for a short period in women during pregnancy. Undoubtedly, in the past, erroneous diagnosis of sacro-iliac relaxation has been due to the roentgenograms having been made at varying angles, so that one joint often appeared wider than the one on the opposite side.

Congenital anomalies, as enlarged transverse processes, flat articular facets, wedging of the vertebra, absence of a vertebra, and numerical variations can only be considered as potential weaknesses, and when present can not be accepted unequivocally until other causative agents have been excluded.

Static or postural causes of pain in the lumbosacral and sacro-iliac joints are not uncommon, but are usually associated with general postural

*Read at meeting of the Chicago Society of Industrial Medicine and Surgery, October 2, 1929.

defects, as flat feet, and like congenital anomalies, may be considered as largely potential.

Like the upper quadrant of the abdomen, the lumbosacral and sacro-iliac joints in the spine may be said to be the region of doubt. With a careful routine examination the exact location of a lesion of this region may be determined in a large percentage of cases; however, this can only be proven by being able to relieve the symptoms and to restore the patient to normal by efficient treatment. At present we can only state to the patient that there are three joints to be considered—the lumbosacral and the two sacro-iliac, and until all three are efficiently treated relief is not certain, as a vicious cycle may exist. Nevertheless, the chances are that treatment to the joint, which is apparently affected, gives complete relief in a great majority of patients.

Even with the advent of the Bucky-Potter diaphragm it is impossible to determine in every case, with accuracy, the pathological or anomalous process in this region by the roentgenogram. There are so many normal variations in appearance that much experience is required to recognize any except gross abnormalities.

In infections, months or years may elapse before there is any change in the continuity or structure of the bones; consequently, the diagnosis must be frequently made before such changes occur, if relief is to be secured. After trauma, gross fractures of the sacrum, pelvis and lower spine may be apparent. Forward displacement of the fifth lumbar vertebra upon the sacrum, spondylolisthesis, may be demonstrable, but this may also be due to trophic changes or infection.

In a large percentage of traumatic injuries to this region, as with infections, the roentgenogram will not demonstrate any abnormality; therefore, after definite trauma, conclusions must often be reached by physical examination alone.

The conservative measures give relief to many of those suffering with the symptom complex known as low-back pain, but there is a great percentage who are largely incapacitated who suffer from a weak and painful spine, regardless of the treatment employed. It is in this class that operative measures are considered. However, only until recently have surgical procedures been employed routinely, except in those who were manifestly tuberculous.

The object of these operative procedures is to obliterate or fuse together by bone the affected joints. In other words, supplying a more natural, a more efficient and a permanent internal brace.

Before entering into a discussion of operative measures, it must be stated that relief should be secured, when possible, by conservative measures. Search for and removal of all definite foci of infection is necessary, regardless of the cause, but relief thereby can rarely be expected, except shortly after the onset.

The indications for operative treatment are as follows:

1. In those in whom a definite pathological process or anomaly is demonstrable by the roentgenogram, as tuberculosis, fractures, etc.
2. In those in whom severe symptoms have persisted over a period of years in spite of the best conservative measures, even though the roentgenogram of the regions has been persistently negative.

Unfortunately, there is no surgical procedure by which both sacro-iliac joints and the lumbosacral spine may be safely and efficiently fused, at one operation. However, the lumbosacral and one sacro-iliac joint may be fused at the same time when doubt exists as to the site of the lesion, and usually has been found to be sufficient. The lumbosacral spine and the sacro-iliac joint, in which symptoms are apparent, are selected. Of course, in those in whom the pathology can be definitely located only the affected joint is submitted to surgery.

Operative measures for inducing osseous fusion of the sacro-iliac joint will be first considered. All well known procedures for this purpose induce fusion by exposing the joint and denuding the articular surfaces. I have devised a method, previously mentioned, which has the advantage of being entirely extra-articular, and avoiding the danger of instigating an acute exacerbation or secondary infection, with well known disastrous results. Especially is this danger encountered where the process is tuberculous.

In the skeleton, the dorsum of the ilium will be seen to extend over the posterior aspect of the sacrum, forming a gutter or triangular space with the sacrum. The object of this procedure is to fuse or induce osseous union between this overhanging portion of the ilium and the posterior surface of the sacrum, and this to cause

extra-articular ankylosis posterior to the joint. The technique is as follows:

An incision is made along the outer lip of the crest of the ilium from the posterior one-third or one-half of the posterior inferior spinous process. This is carried down to the bone, where the periosteum is incised and elevated for a considerable distance, and the posterior portion of the dorsum of the ilium exposed. The crest of the ilium is dissected free to raw bone and the adjacent fibrous tissue removed from the posterior surface of the sacrum beneath the region of the erector spina, or sacrospinal muscle. A portion of the crest is removed and placed in a towel. The inner surface of the overhanging portion of the crest of the ilium is denuded, and a raw gutter made parallel with the sacro-iliac joint, formed by the posterior surface of the sacrum and the inner surface of the ilium posterior to the sacro-iliac joint. Into this space is placed the graft from the crest. Multiple grafts or "shavings" are next secured from the dorsum of the ilium and placed into the gutter until the space is well filled, when the wound is closed in layers. The patient is placed on a Bradford frame for a period of six weeks, when a low back brace with sacro-iliac belt is applied.

In those in whom fusion of the lumbosacral spine is required, in addition to fusion of the sacro-iliac joint, a curved or convex graft may be secured from the crest of the ilium, and transplanted into the spinous process of the lumbosacral region after the manner of Albee.

The lumbosacral regional one may be best fused by the Albee graft where the spinous processes are in the same plane, but unfortunately, there is considerable lordosis in most individuals. Therefore, it is often necessary to break down the spinous processes, denude the *laminae* and then transplant an osteo-periosteal graft which conforms accurately to the lumbosacral region, and which is a combination of the principles evolved by Albee and Hibbs.

Osteo-periosteal Graft. The technic of securing the osteo-periosteal graft is as follows:

A curved or straight incision may be used, exposing the inner flattened surface of the tibia. The skin is reflected, leaving the periosteum attached with as much over-lying tissue as possible. The periosteum is incised, outlining a rectangular area slightly larger than the dimen-

sions of the graft desired, leaving a margin of about one-eighth inch of soft tissue surrounding the graft. The outline of the graft is then defined on the surface of the bone by shallow incisions with a chisel directed at right angles to the bone. The graft is then raised by elevating a series of particles of bone from the cortex of the bone with a chisel, care being taken not to separate the particles from the periosteum. As the graft is chiseled free it curls upon itself like a shaving of wood, and when free, must be straightened out before it can be transplanted. The periosteum with its attached bone fragments supplies a graft rich in osteogenic properties, which is readily accommodated to the size and shape of any graft bed.

A survey was made of thirty-six cases, in whom one or more of the joints in question had been operated upon for the purpose of fusion. No definite conclusion can be reached, as this report is only preliminary. In the etiology, ten were tuberculous; in four trauma could be ascribed as the sole cause of symptoms; one was due to postural defect; one to congenital anomaly; nineteen to infectious arthritis and one to osteoarthritis, making a total of twenty-six that were non-tuberculous.

An estimate of the results can be demonstrated in the non-tuberculous by the following table: fifteen were relieved; three were improved; no improvement in two; too early to estimate results in four; and two died.

In the tuberculous cases, six were apparently arrested and in four conclusions have not been reached.

In seven, the extra-articular fusion of the sacro-iliac joint, with transplanting of the crest of the ilium into the spinous process of the lumbosacral region was employed. Two of these died of operative shock, but were not the best surgical risks; therefore, it is believed that this procedure is not advisable, except in robust individuals. In fusing the sacro-iliac joint alone by this method, there has been no operative shock and no mortality; also when the osteo-periosteal graft was placed into the lumbosacral spine and the sacro-iliac joint was fused by extra-articular method, there has been no operative shock or mortality. Of the thirty-six cases there were only five in whom no definite abnormality could be demonstrated by the roentgenogram. In

these, symptoms had persisted for years, and conservative measures had been employed. The results have apparently been satisfactory. Of the nineteen with some type of infectious arthritis only eight gave a definite history of trauma, the relation of which to the cause was doubtful.

After the elapse of more time, the tabulated results of these procedures in the sacro-iliac joint alone, and in the lumbo-sacral and sacro-iliac joints in conjunction, will be of more value, but at present the relief so far obtained has been sufficiently encouraging to advise the procedure in all well selected cases.

PROPHYLACTIC CARE IN INFANCY*

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Preventive medicine has come to occupy an increasingly important place in therapy. This is true of all branches of practice, but is most particularly true of pediatrics. Medical care during infancy consists to a considerable extent in the care of the well baby, and in pediatrics prophylaxis has gone a step further than in other branches of medicine. Preventive pediatrics consists not only in the prevention of disease, but also attempts to eliminate structural defects of the organism. In other words an effort is made to achieve as nearly perfect an individual as possible, not only from a physical point of view, but from the standpoint of mentality, character, and emotional balance. We shall consider briefly some of the factors entering into this branch of practice, concerning ourselves only with the normal infant.

Infant Mortality. The progress made by any branch of preventive medicine is gauged by the statistical evidence accumulated relative to the mortality rate during a period of years. In childhood, it is during the first year of life that the death rate is the highest, the mortality diminishing progressively as the child approaches puberty. Infant mortality has always been considered an important index of the general health, sanitation, and economic situation of a community. During the past thirty years there has been a steady diminution of infant mortality in the United States, ranging from about 150 deaths

per 1,000 live births in the latter part of the nineteenth century to about 65 to 75 per 1,000 births at the present time.

Economic factors bear a distinct relationship to infant mortality. Overcrowded housing conditions, poverty, necessity for employment of the mother, all definitely increase infant mortality. Race plays a role in this relationship, colored races, due to their poor economic condition, showing a high mortality. The age of the mother is also an important factor, the rate being highest for very young mothers. Illegitimacy predisposes to a high infant death rate. Prenatal care is of tremendous importance in infant mortality, premature and congenitally weak infants showing a high rate.

An examination of the statistics relative to the actual causes of death reveals the facts that the greatest proportion of deaths occur during early infancy, up to the age of one month, and that gastro-intestinal disturbances account for a considerable number of these, about 27 per cent. If one compares mortality statistics over a period of years, one will note that the diminution in death rate has occurred in this group of cases. This fact bears a distinct relationship to the character of the feeding. Breast fed infants are represented in mortality figures to only a relatively small extent, about 75 per cent. of the deaths occurring in artificially fed infants. Ninety per cent. of the deaths from diarrheal disturbances occur in bottle fed babies. Prematurity, congenital debility, and birth injuries lead the list of causes, accounting for about 35 per cent. of the deaths. Respiratory diseases, particularly the pneumonias, show about 17 per cent., and other communicable diseases play a relatively small role.

Infant Feeding. From the foregoing, one may readily appreciate the importance of proper feeding in the normal infant, in connection with mortality. It has added importance in our striving toward the achievement of an ideal individual. The infant may not necessarily succumb, but as a result of improper feeding and nutritional disorders may bear physical defects throughout life.

Every discussion of infant feeding should begin with breast feeding. It is the ideal method of infant feeding, as well as the simplest. Breast

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milk is the food best adapted for the nutrition of the infant, least likely to be contaminated with bacteria, and in addition has the property of conferring specific immunity to many of the infectious diseases. In spite of these facts there is an increasing tendency in recent years to stress the importance of artificial formulæ at the expense of maternal nursing. Part of the fault lies with the modern mother, who finds breast feeding confining and tiresome, and feels that, since pediatricians are accomplishing such wonderful things with artificial formulæ, her efforts are a useless waste. This attitude on the mother's part is directly traceable to misinformation as to the importance of breast feeding and should be combated by the physician. It is possible in almost every instance to supply breast feeding for at least the first few months of life, and since this is the most dangerous period for the infant, every effort should be bent to continue nursing.

As to the technic of breast feeding, little need be said. The nursings should be regular at three to four hour intervals, 15 to 20 minutes at a time, alternating the breasts. Every effort should be made to stimulate the secretion of milk by complete emptying of the breast and proper diet and hygiene of the mother. A serious effort should be made to give some breast milk for at least three months. It is not advisable to continue breast feeding for longer than nine months. The question of the addition of other foodstuffs during the period of breast feeding is of importance. Many pediatricians feel that it is wise to substitute one breast feeding with an artificial feeding at three months. This has several advantages. It permits the infant to develop a tolerance to cow's milk early, at a time when the greater part of the diet is still breast milk. This eliminates some of the severe upsets formerly seen at weaning. Furthermore, it gives the mother a little more liberty and will help prolong the total nursing period in many instances. Cereal feedings should also be instituted early, around the third or fourth month, and a vegetable feeding introduced at about the sixth month. This supplies some of the inorganic elements and food accessory substances which might otherwise be lacking in the regimen. In addition, it is valuable in producing proper dietary habits in the child.

Complemental Feeding. In some instances it will be found that the supply of breast milk is insufficient to maintain normal growth in the infant. When this occurs, it is necessary to make up for the deficiency in the milk by some type of artificial formula. It is advisable as a general rule to give the breast feeding first, complementing it later with the desired amount of formula. A simple method of determining the exact amount of breast milk the baby obtains is by weighing the baby before and after nursing over a period of twenty-four hours. It is often found that the breast milk increases after a period of insufficient supply, so that the complemental feeding may be cut down or entirely eliminated.

Supplemental feeding has already been mentioned. It consists in the replacement of an entire breast feeding by a bottle and is the method used in weaning the infant.

Artificial Feeding. In a certain proportion of cases where for some reason it is impossible to supply the baby with breast milk, artificial feeding is resorted to. As a general rule it is possible to feed almost every baby successfully on a mixture of whole fresh cow's milk modified by dilution and the addition of carbohydrates. There are certain fundamental differences between cow's milk and human milk. Cow's milk has a higher protein content, 3.5 per cent., as compared to 1.5 to 2.0 per cent. in the case of human milk. The fat content is approximately the same, about 4 per cent. The carbohydrate, however, is distinctly less in cow's milk, about 4.5 per cent., human milk running 6-7 per cent. An important difference in cow's and human milk is the character of the curd. Human milk yields a very soft, finely divided curd, while cow's milk gives a very tough, hard, lumpy curd. This difference is an important one in infant feeding. The bacterial content of cow's milk is always high, while human milk is practically always sterile.

In adapting cow's milk as a feeding for infants, therefore, the above differences must be considered. It is not essential to attempt to imitate breast milk very closely, as has been done in the case of some proprietary foods, but several alterations are made to render the milk digestible by the infant. It is essential that the character of the curd be changed. This is one of the prime

considerations in infant feeding. A feeding yielding a soft, finely divided curd in digestion will always be well tolerated by the infant, while one yielding a tough, lumpy curd will often be poorly handled. To modify the character of the curd, a number of measures have been employed. Perhaps the simplest of these is boiling the milk. This procedure has two-fold value, inasmuch as it sterilizes the milk as well as altering the character of the curd. Both of these factors are important, and one may state almost as a general rule that milk should be boiled throughout infancy. Other methods of altering the curd consist in the addition of sodium citrate, lime water, lactic or hydrochloric acid and the like.

Dilution of the milk is a less important factor. Infants tolerate highly concentrated mixtures well, provided steps have been taken to alter the nature of the curd. The amount of water added is dependent upon the total amount of feeding to be given in twenty-four hours. Addition of carbohydrates is necessary to supply the basic maintenance requirement for growth and development. This may be added in the form of ordinary cane sugar, dextro-maltose compounds, Karo syrups, or sometimes lactose.

In computing formulæ in infancy, several basic rules are conveniently used. In arriving at the total daily quantity needed, it is necessary to decide the number of feedings to be given in a day and the amount to be given at each feeding. Most men prefer to feed babies as infrequently as possible during the day, and in the case of normal infants it is usually possible to feed at a four-hour interval from the start. Occasionally, small babies will be fed at a three-hour interval for the first few weeks and then placed upon a four-hour schedule. The amount to be given at a feeding may conveniently be estimated by adding two ounces to the baby's age in months. Thus a three-month-old child as a rule will be satisfied with five ounces of feeding. This rule holds good up to the age of six months, when most babies will take eight ounces. This should be the maximum amount of milk given at a feeding and should not be further increased during the second half of the first year.

The amount of milk to be given in the day's formula may be computed by taking approximately one and one-half to two ounces of milk

for each pound of body weight. For example, an infant weighing ten pounds would receive approximately fifteen to twenty ounces of milk in the day's feeding. This factor cannot be set as an absolute rule, since infant feeding is always an individual procedure, and one child may thrive on 1.5 ounces per pound of body weight, while another will require considerably more than that to maintain its growth. It furnishes a convenient basic rule to work from, however, and always yields a safe minimum of 1.5 to 2 grams of protein per pound of body weight.

Carbohydrates must be added to bring the amount fed to meet the basic requirement of 4 to 6 grams per pound of weight per day. Each 1.5 ounces of cow's milk contains approximately two grams of lactose. If we add, therefore, 0.1 ounce or 3 grams of carbohydrate for each pound of body weight we will bring the total amount of carbohydrate in the feeding up to its required level.

A feeding of this type is poor in food accessory substances, and vitamins A, C, and D must be supplied by the addition of orange juice and cod liver oil. These are usually started some time between the first and second month.

Mixed feeding should be instituted around the fourth or fifth month by the addition of cereal. By the sixth month a vegetable feeding should be given, either in the form of pureed green vegetables or as a vegetable soup. The colored vegetables, such as spinach, carrots, peas, string beans and the like, should be stressed for their high mineral content.

Much interest has been displayed in recent years in various types of special feeding. As has been stated, most infants will do well on modified whole cow's milk feedings. In small, weak infants, in prematures, or in infants with pylorospasm, special formulæ are often of great value. Various acidified milk mixtures have enjoyed considerable popularity in such cases. Lactic acid milk, produced either by culture or chemically by the addition of lactic acid to whole milk, is one type of acid milk frequently used. Lemon juice, orange juice, hydrochloric acid, or vinegar have also been used to acidify the formula. These mixtures have two advantages. In the first place, the addition of the acid has the property of splitting the curd, giving a very soft, finely divided coagulum with rennin. In

addition, the increased acidity of the formula tends to reduce vomiting in pylorospasm by increasing the acidity of the gastric contents, thus facilitating opening of the pylorus. On account of these properties it is possible to feed a highly concentrated mixture with these acid milks without producing gastro-intestinal disturbances, thus giving small, weak infants a high caloric diet and producing rapid gain in weight.

Eiweiss milk or commercial powdered protein milk has a valued place in the armamentarium of the pediatrician, particularly in premature or small, weak infants, where breast milk is not obtainable or in the severe nutritional disorders.

The various powdered milks or unsweetened evaporated milk also fill an important place in infant feeding. These are most useful under circumstances where it is difficult to obtain fresh whole milk without contamination. Such conditions arise in remote communities or small towns without adequate refrigeration, or on long journeys. These milks, when properly prepared, give a whole milk which is free from bacterial contamination and has the added advantage of yielding a fine, soft curd, due to the heating of the milk in sterilization.

Prevention of Rickets. In the attempt to raise perfect individuals, the prophylactic treatment of rickets occupies an important role. Numerous defects result from rickets, and the tendency to the occurrence of upper respiratory tract infections in rachitic children increases the hazard as to life. In many instances one feels that the prevention of rickets should commence in the prenatal period.

In the production of rickets, a number of factors are concerned. The type of feeding, the presence or absence of sunlight, use of cod liver oil or other irradiated substances all play an important role. Prolonged breast feeding, without the addition of vegetables and cereals, or the feeding of low fat and high carbohydrate mixtures increase the incidence of rickets. The use of sunlight in regular dosages during the summer months and of ultraviolet light in the winter months when sunlight is not available will distinctly diminish the incidence of rickets. In addition, the use of foodstuffs or medication containing the specific antirachitic vitamin are of great value. Of these, cod liver oil has enjoyed

the greatest popularity. It is rich in both vitamin D and A and, in addition, supplies definite food value in its fat content. Its disadvantage lies in the fact that at times it is not well tolerated and that some babies refuse to take it in adequate amounts. Of recent years it has been found that certain foodstuffs when exposed to ultraviolet light have the antirachitic property bestowed upon them. Of these, the most important, perhaps, is ergosterol, which when irradiated becomes an extremely potent antirachitic agent. This substance may be dissolved in an oil in such quantities that a very minute dose may be given and will confer protection against rickets. It must be remembered that only vitamin D is being supplied in this way. Irradiated ergosterol is now marketed by several firms under various trade names, Viosterol, Acterol, or Vigantol, and is being used both in the prophylactic and curative treatment of rickets. The dosage used in prophylaxis ranges from three to ten drops daily in the commercial preparations now marketed. Other foodstuffs, such as milk and various cereal grains, have also been irradiated. These seem to have definite value in the prophylaxis of rickets, but have the disadvantage of inaccuracy in dosage.

In spite of these measures, which are receiving increasing use of late, most well nourished infants show some degree of rickets, though the severe deformities and the nervous manifestations are seen less and less frequently of late.

Scurvy represents a specific deficiency disease which is diminishing in frequency in infancy. It is dependent upon the continued use of a diet low in vitamin C. Its prophylaxis consists in the administration of the vitamin which is contained in large amounts in the juice of citrous fruits, such as orange, lemon, or grapefruit, in tomatoes and to a less extent in the leafy vegetables and milk.

Nutritional anemias are seen in cases where the diet is faulty, where severe nutritional disorders or rickets have occurred, or where there has been inadequate sunlight. The anemia may be quite severe and is usually of the chlorotic type, a relatively high red cell count associated with a reduction of hemoglobin. Their prevention is based upon proper feeding, and the addition of green vegetables and vitamin containing

foodstuffs, and the ultraviolet light early in infancy.

Glandular Disturbances. Of the disorders of the glands of internal secretion, thyroid deficiency is the principal one seen during infancy. It manifests itself by obesity, present at birth as a rule and constantly present during the first year, delay in normal development, dryness of the hair and skin, and retarded mentality. It is treated by supplying thyroid extract by mouth. Its early recognition and treatment is of great importance in regard to the normal development of the individual.

Prevention of infections will be only briefly mentioned in this paper. Diet, fresh air, sunlight and vitamins are all of importance in increasing the resistance to respiratory tract infections. Protecting the infant against exposure to many individuals, either children or adults, is an important factor in this connection. Overheated apartments and overdressing the child play a definite role in increasing the susceptibility to infection.

As far as specific protection against infections is concerned, two measures should be carried out as a routine in the infant's care. First and most important of these is toxin-antitoxin administration to protect against diphtheria. Protection against this infection should be carried out at about one year of age and should be followed in three to six months with a Shick test to verify complete protection. It is preferable to use a mixture in which the antitoxic serum is either that of the sheep or goat, since by so doing one avoids sensitization to horse serum, which is so commonly used in therapeutic sera. Toxoid may also be used to advantage in infancy.

Smallpox vaccination should be carried out some time between the twelfth and eighteenth month.

Other prophylactic inoculations, such as active immunization against scarlet fever, passive immunization against measles, the use of vaccines in an attempt to immunize against common colds, are of questionable value and have no place as a routine procedure in the care of infants.

Summary and Conclusions. The infant death rate has been steadily diminishing during the present century. The most important factors in infant mortality are gastro-intestinal disorders, prematurity and congenital debility, and res-

piratory tract infections. Proper prenatal care and attention to feeding are important factors in reducing infant mortality. More particularly, breast feeding is a tremendous protection against the hazards of the first year of life, and every effort should be made to continue it for at least the first three months and, if possible, for the first six months.

A proper understanding of the nutrition and general hygiene of infancy will contribute much not only toward diminishing infant mortality, but also toward the development of an individual most nearly approaching the ideal one.

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EXTERNAL POPLITEAL NERVE INJURIES

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The comparatively scant experience in nerve surgery of the average general surgeon, to which class most of us belong, would seem to make a brief discussion of injuries to one of the more frequently involved peripheral nerves worth while, especially since the subcutaneous injury to this nerve is uncommon and its recovery notably discouraging.

The external popliteal seems to rank about fifth in frequency of involvement as compared with those more often injured. Somewhere between ten and fifteen per cent. of peripheral injuries are concerned with the external popliteal nerve.

A review of 39 articles published during and since the World War reveals the vast development of neurological surgery coming out of this conflict and emphasizes how comparatively little practical experience pre-existed to bolster up the scientific conclusions that were previously arrived at. This review of the literature during the past winter suggests that neurological surgery more than some other branches, with the notable exception of fractures, profited particularly from the misfortunes of war and had been waiting for this wealth of material for its present practical development.

The work in the general hospitals in this country and Europe has now been long enough concluded to tabulate the end-results for recovery of function after nerve injuries or operation.

What in the pre-war period was probably regarded as bold or presumptive is, under immaculate present day technique, routine procedure.

It is possible that not only severe but also trivial force applied anywhere from the lower pelvis down to the level of the upper portion of the fibula may result in an injury to the external popliteal nerve. Fractures, contusions, stab wounds, crushing injuries, and constriction or pressure may cause more or less severe injury to the sciatic or its branches. Sciatic injuries with surprising rapidity settle down into partial or complete paralysis of the external popliteal branch, while the internal branch escapes with much less injury. Neuromas following injuries are palpated along the course of the sciatic in the thigh. Some authors are convinced that external popliteal involvements were incomplete sciatic lesions at first. There is no question but that many fractures produce temporary as well as permanent injuries to the external popliteal. This nerve supplies muscles which act against gravity and its compression, lateral notching or section results in a definite paralysis of the anterior tibial, extensor longus hallucis, extensor longus digitorum and the peronei. No extensive clinical experience is required to observe the foot-drop and steppage gait which results, or the sensory disturbance in the dorsal cleft between the great and second toes and over the dorsum of the foot. While lesions of the internal popliteal may pass unobserved, there would seem to be little excuse for missing a paralysis of the external branch of the sciatic which shows loss of sensation over the lateral aspect of the leg and foot, loss of eversion and extension of the foot and loss of extension in the metacarpophalangeal joints.

Unless one has reached that pinnacle of distinction on which he may be known as a neurological surgeon, he must associate himself with a neurologist in all important nerve injuries for the mapping of overlap areas, the determination of deep, protopathic or epicritic sensibility, the proper use and interpretation of faradic and galvanic stimulation, the identification of the reaction of degeneration, the measuring of atrophy, the testing of vibration perception, the demonstration of the supplementary function of sensation of adjacent nerves and Tinel's and other tests having for their object the differentiation

of anatomic section from a lesser injury in cases of complete loss of function. The review of the literature in the preparation of this paper and the reading of many case reports from war hospital records should convince one that even the neurologists have failed to find a way to make this differentiation. Surgeons have been mystified by the efforts of various nerve specialists to tabulate elaborate syndromes and classify group symptoms under definite headings. When the neurologist finds little of importance to contribute to the solution of the surgeon's problems, his phraseology, particularly involving the sensory changes in peripheral nerves, is discouragingly astounding; but when positive findings are recorded by the neurologist, the surgeon realizes how essential the nerve opinion is, either in conjunction with operative or expectant treatment. The fact that a neurologist either accepts or refuses the blame for either an operative or a non-operative decision in most peripheral nerve injuries in no way relieves the surgeon from responsibility. He must decide as between immediate operation and expectant treatment. After four to six months he must again decide as between the wisdom of surgical or non-surgical care of the patient. During the waiting periods he must remember that the calf muscles are five times stronger than those supplied by the external popliteal and he is therefore responsible for the proper splinting and support of paralyzed muscles against the overaction of their opponents, some of which may be involved in a partial and unseen paralysis of the internal popliteal. He must exhaust every effort through physiotherapy and the possible use of electricity to encourage return of function both before and after operation.

Since only the ulnar, musculospiral and external popliteal are near enough the surface to be subject to pressure injuries, the following case may be of interest. It would seem surprising that more cases of external popliteal paralysis do not result from such accidents as falls striking the force of the body on the outer aspect of the knee. I have observed one case of transitory external popliteal involvement in a motor officer who side-swiped his knee against the running board of a speeding car.

CASE REPORT

Mr. D. R. K., aged 34 years, was admitted to the

Evanston Hospital, March 3, 1928, with a history of an automobile accident forty-eight hours previously in connection with which the injury appeared to be due to either the striking of the region of the head of the left fibula against the brake-lever or to the fact that the patient was pinned beneath his overturned car in such a way that pressure was exerted upon the area mentioned. There was no immediate evidence of contusion, laceration or other injury. The previous history of this patient included a number of abscessed teeth, a chronic sinus infection, a slight hyperthyroidism with a metabolic rate of +17, and a nervous disposition. The patient was seen in conference by Drs. Bassoe and David.

Examination revealed a left foot drop with no dorsiflexion or lateral motion. The skin of the dorsum of the left foot was glossy after the second or third day and the toes were held in extension. There was no pulsation palpable in either the dorsalis pedis or the posterior tibial arteries. One of us felt a diffuse pulsation in the left popliteal space which suggested a popliteal aneurism, the pressure from which might be responsible for the paralysis observed. There was an extensive ecchymosis after the third day of the posterior aspect of the left leg and thigh with no apparent swelling present. There was loss of sensation in all the toes and diminished sensation in the dorsum of the foot. A trophic area of redness was observed on the back of the heel. Films of the lower half of the femur and the upper half of the tibia and fibula showed no fracture. Inasmuch as our neurological and surgical opinions differed with reference to the presence of a popliteal aneurism the case was treated expectantly as a paralysis of the left external popliteal nerve.

The patient was in the hospital eighty-four days, during which time the left foot was maintained in neutral dorsiflexion with various types of removable splints. After a period of three weeks, physiotherapy and massage were conducted throughout his stay. During the first three weeks his temperature varied from an A. M. normal to an evening 100°. The pulse varied between 90 and 110. During this period he complained of considerable nausea, sweating particularly of the foot, numbness of the instep and marked pain in the dorsum of the foot which required morphin or codein much of the time. One month after admission foot jerking was noticed when the patient was seated with the leg hanging down. Two months after admission he was able to take steps alone supported by crutches in a walking cast retaining the foot in dorsiflexion. He spent the summer on Cape Cod, most of the time in a bathing suit, where massage and physiotherapy were conducted under the direction of Dr. Phillip D. Wilson of Boston.

On November 18, 1928, the patient returned to the Evanston Hospital. The examination at this time showed no pulsation in the dorsalis pedis or posterior tibial and no improvement whatever in the

paralysis. There was present a fair degree of atrophy particularly of the anterior tibial and peroneal groups. Those of us associated in his care agreed that sufficient time had elapsed for physiological restoration, and it was decided to expose the external popliteal nerve.

Operation of Neurolysis. An incision was made from the upper margin of the left popliteal space along the mesial border of the biceps tendon and prolonged downward with a curve over the region of the head of the fibula. The nerve was exposed and freed well up above the popliteal area and down to its entrance into the belly of the peroneus longus muscle. It was found to be flattened about 50 per cent. over the head of the fibula where it was bound down by many small bands of adhesions. There was no evidence of a neuroma nor an interstitial hematoma. The sheath remained intact and there was no lateral indentation. No new tissue was observed which might be impenetrable to axis cylinders. A free transplant of fat was removed from the upper outer aspect of the left thigh to form a new bed and roof for the nerve for a length of three inches over the fibular head. The wound was closed in the usual manner without drainage and healed satisfactorily without wound infection. The immediate postoperative trend was characterized by an increase of his former pain, particularly in the dorsum of the foot and toes. After two weeks massage and physiotherapy were resumed and he was discharged from the hospital on December 22, 1928, in a walking dorsiflexion splint, feeling in better health generally, without pain, but with no demonstrable improvement in the paralysis. A neurological examination made by Dr. Peter Bassoe, February 27, 1929, one year after the injury and three months after operation, showed the following findings: "There has been a great improvement since my last examination on May 13. I now could feel pulsation in the dorsalis pedis and the foot is warm. The area of anesthesia is smaller and there is a little evidence of return of power in the extensors of the foot. However, the atrophy is quite marked and reaction of degeneration is present. The atrophy of the extensors is so great that even with the galvanic current it is impossible to produce extension of the foot, because the current diffuses to the flexors. The external popliteal nerve is notorious for the slowness or even failure of return to normal function after injury. In this case, however, the fact that there has been an improvement at all makes it reasonable to suppose that a fair power of extension will have returned a year from now, and that the muscles will gradually grow larger and stronger.

"I am satisfied from my tests that electric treatment is not worth while. The exercise that he gets in walking about is probably his best remedy, and in addition some other ordinary massage would be permissible."

CONCLUSIONS

The following conclusions were reached from the literature and the experience of this case:

Results of injuries to the external popliteal are usually discouraging.

Restoration of function or even improvement often require months or years.

Injuries of the external popliteal, particularly in conjunction with fractures, often require immediate operation.

Modern technique in either neurolysis, grafting, use of flaps, or suture has markedly improved the end results.

The collaboration of an excellent neurologist is usually essential.

Persistent total or partial interruption in the external popliteal calls for operative relief.

The removal of a neuroma, glioma or intervening cicatricial tissue must be made far enough back from the stumps so that the distal progress of neuraxes may be uninterrupted after suture.

Such flexion or extension of the knee joint or even transplantation of the nerve must be made as will relieve the suture line of all tension while healing.

The fact that neuraxes grow about 1 m.m. per day or about 1 inch per month, when explained to the patient, would seem to encourage that degree of co-operation which is necessary in the conduct of a prolonged recovery.

Nerve grafts longer than 12 c.m. are not successful.

It is never too late to attempt an operative nerve repair of the external popliteal.

Early suture, even if unsuccessful, has the redeeming feature of preventing retraction of the stumps if re-operation is indicated.

Tinel's test would not seem to be a sufficient contraindication to surgical interference.

The superficial position of the external popliteal and its comparatively easy exposure above the peroneus longus offer little excuse for its surgical neglect.

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PRESENT STATUS OF EPIDEMIC ENCEPHALITIS LETHARGICA (E.E.L.)*

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Introduction. "The remarkable and polymorphous disease of E.E.L. (Epidemic Encephalitis Lethargica) made its dramatic advent on a war torn world: its rapid diffusion to all continents and the islands of the seas, its striking and characteristic pathological picture, its astonishing masquerade in the guise of a myriad of other diseases, its remarkable shift of group types in succeeding years of its recurrence, and its almost unforetellable course in any individual case has no parallel in the entire field of medicine. And it is doubtful if any plague has ever been visited upon humanity that has claimed so many victims, has so completely covered the earth, and left so many maimed and crippled wrecks in its wake."¹

History. First identified in 1917 by von Economo of Vienna.

Winter of 1918-19, pandemic.

Winter of 1922-23, another world wide pandemic.

Winter of 1923-24, an epidemic in England with 10,000 cases. Manchester epidemic studied by the National Research Council and no conclusion reached as to transmission or epidemiology. Out of 141 cases, 13 apparently fully recovered; 40 died; and 3 had developed paralysis agitans already before the report had been com-

pleted, and in only 7 cases were the British authorities able to find any conclusion as to transmission and in none of them were they sure.

Winter of 1926, epidemic in Japan with 40% deaths; again epidemic there 1929.

Too soon to forecast whether it will remain pandemic or grow in localized severity or subside to return periodically.

Incidence. In 1926-27, Dr. Lorenze of Madison sent a questionnaire to every practicing physician in the State of Wisconsin to ascertain the number of cases in the State which had been diagnosed E.E.L. and their condition. There were reported back to him 643 cases, of which 240 needed institutional care, including those who were already receiving institutional care. Now, Wisconsin has a population of 2½ million, which is about the population of the city of Chicago. Assuming two-fifths of the actual cases were diagnosed, Wisconsin probably had, according to my figures, 1,600 cases, or 61 per 100,000 population.

Among my charity patients in Chicago since 1921, out of 8,000 neuro-psychiatric patients I have seen 200 cases of E.E.L. or about 2%. In private practice and in hospitals I have seen about 100 more such cases. Also in jails and other institutions of all kinds I have run across E.E.L. cases. Therefore, I reckon that in the metropolitan district of Chicago there are about 1,500 living cases of E.E.L., and in downstate Illinois about 1,000 more living cases of encephalitis. Dr. Ball of St. Paul, in a letter to me about a patient, said: "I also consider the possibility that this man has E.E.L. If all my patients had this damnable disease, I would suicide. As I review my case histories, I see now that I have overlooked this diagnosis much too often."

Studies of the distribution of this disease show that there is no preponderance found in either sex nor in any age group. It is evenly distributed from 3 months of age to 70 years of age. It is found in all walks of life—the well-to-do, middle class, poor and the very poor. It is found in all races, in all communities—suburban and urban and rural. It is developed in persons of good and variously impaired health. Only once have I seen two cases in the same household. It is ubiquitous. However, it is

*Read before the McLean County Medical Society, Bloomington, Ill., October 15, 1929.

1. Epidemic Encephalitis, Leo N. Crafts, Pub. Badger, Boston, 1927.

found more frequently in some states than in others, i. e., more in New York than in Rhode Island per 100,000.

The outstanding sequel has varied, depending on the year the patient acquired the disease. The outstanding symptom in the acute stage has also varied largely, depending on the year. In 1918-19, the bulk of the cases had diplopia and somnolence; the next winter there were more cases of delirium and insomnia and not so much sleepiness. Most of the patients living now who were sick in 1918 and 1919 are lethargic and sleep a great deal. Most of the patients who were acutely sick in 1920 and 1921 now show Parkinsonism symptoms. This was most marked at Mountefiore Hospital in New York City, where the wards quickly filled up when the hospital was opened. Most of the patients presented just that one type of pathology.

Etiology. The various viewpoints as to the cause are many, but these are most frequently considered:

1. That it is influenza.
2. That it is a modified influenza-meningitis.
3. That it is a mutation form of influenza.
4. That it follows influenza and must be preceded by influenza.
5. That it is due to a green streptococcus.
6. That it is related to epidemic hiccough or epidemic torticollis.
7. That it is associated with vaccination.
8. That it is associated with the virus of measles.
9. That it is associated with the virus of herpes.
10. That it is not due to Leviditi's virus nor due to the ordinary epidemic encephalitis found in rabbits.
11. That it is a winter form (mutation form?) of a neurotropic virus, other forms of which cause polio myelitis, multiple sclerosis and other and rarer progressive nervous diseases.
12. That it is due to its own specific virus, a virus which by involvement of the sympathetic nervous system causes herpes and which when inoculated into experimental animals causes typical and transmissible encephalitis. This is my belief, but I cannot prove it until it has been transmitted from animals back into humans. Such a strain of herpes was isolated by LeFevre

at the Pasteur Institute, Brussels, Belgium, working under Bordet, and brought to this country by Dr. Earl B. McKinley, who was there with LeFevre when working on that problem at that same time. It may be that there are several or many types of Herpes Virus, e. g., A. B. C, etc.

13. It is generally agreed and concluded that E.E.L. is of some specific cause, and that it is a disease entity and not merely a syndrome.

It has been assumed that its mode of entrance is through the nasal pharynx, especially if chilled; this has not been proven. It has been assumed that it is an air borne disease; this has not been proven. There is on record a case of E.E.L. who swapped cigarets and cigaret holders with two surgical cases lying on each side of him in bed in a hospital ward and both of these men developed encephalitis.

The incubation period is unknown and will be unknown until humans may be inoculated with this disease.

It has been assumed that the distribution within the body is by the blood stream. This has not been proven nor has distribution via the lymphatics been excluded.

It is empiric for us to say that the incubation period is a matter of so many days, months or years, and we can with no certainty say that it is or is not related to any particular thing, such as military duty. It may be that E.E.L. is due to two conditions, one being the virus and the other some predisposing or concomitant cause, just as Vincent's angina is due to two dissimilar organisms acting at the same time or in relation to each other.

Pathology. Post mortem findings in the brain show some injection; the brain is wet on section, with red points here and there. The vessels are dilated, the perivascular spaces are dilated, and the blood vessels are surrounded by an infiltration of small mononuclear cells. In the involved areas there is cloudy swelling, inflammation, and some degeneration of the brain cells. Because there is more inflammation than degeneration, the prognosis is not necessarily bad and remissions should be invoked by proper treatment.

The basal ganglia are most often involved. Especially are involved the optic-striate regions, the crura, the pons and the nigra. In the Parkinsonian cases, the pallida and striate are usually

involved. The medulla is rarely involved. There may be involvement of the nuclei of *any* of the cranial nerves, or of *any* tract, especially these tracts—tecto-spinal, rubro-spinal, pyramidal, or extra-pyramidal tracts. The root zones may be involved. The peripheral nerves may be involved as in neuritis, and I have seen a case so severe that alcohol injections had to be given, even though there was subsequent atrophy. The sympathetics may be involved, and in my opinion the sympathetic usually are involved.

I regard this as a toxemia: where I cannot say, but I believe that the virus makes a nest for itself in some tissue, maybe in the sympathetic ganglia and from that zone the toxic material is spread. It spreads in two characteristic ways: there is, in the acute stages, a systemic toxemia resembling the toxemia of influenza. There is also a toxemia involving the brain much like the toxemia in Botulism. The areas poisoned by the toxin from this virus show local inflammation leading to more or less degeneration.

There are no clinical laboratory tests for this disease which are reliable. There is not yet available any diagnostic spinal fluid test, but the need for some such test is enormous and research work is being done to develop some such test.

There are no body symptoms which of themselves or in combination with each other which are absolutely diagnostic. The disease is more multi-form than syphilis.

Onset and Course. The onset in more than half of the cases is acute and resembles influenza. In many cases, in my series about 1/7 of the cases, it is recalled that the onset was preceded by a persistent herpes. In some cases, the onset is insidious, and in a few cases the patients cannot give a history of any onset until they develop either rigidity or tremors. One author describes this onset as follows: "It shows a diversity of syndromes altogether unequaled by any other known disease. For the introduction may be as diverse as is its later unfolding. In one the initiation may be as that of an attack of influenza with general malaise, headache, generalized pain, marked prostration, elevation of temperature, gastro-intestinal disturbances. Another may approach very insidiously and slowly masquerading for weeks or months as a simple neurasthenic condition. Or a fulminating advent may strike with startling suddenness re-

sembling exactly an acute ptomaine poisoning, accompanied with vomiting and purging. Or again it may be ushered in by an apoplectiform attack or epileptiform seizure, with or without loss of consciousness. Or the picture may at first counterfeit an acute abdominal surgical state. While yet another simulates a neoplastic brain lesion, or one of the spinal cord. And in still others various mental complexes are very exactly imitated, at the outset, perhaps ushered in by mild maniacal excitement, or some degree of depression with or without restlessness. While in a young subject the picture may exactly resemble early dementia precox, of either simple or catatonic type. In other cases some single symptom appears and continues alone for an undetermined time, like vertigo, tetanic spasm of individual muscles, sudden blindness in one eye, perhaps to subside, either to reappear or be followed by altogether undeterminable congeries. That is, at its inception, or at later points in its progress epidemic encephalitis in any individual instance may present an almost exact resemblance to practically *any* known disease of the nervous system, either functional, inflammatory or degenerative in character, or the neoplastic, as well as those of the psychos. And these imitative pictures are not entirely confined to the nervous system either, but may also be found in the surgical sphere and that of general medicine as well."¹

The course is essentially progressive with exacerbations leaving the patient at a lower level with each exacerbation. It is not a self limiting disease with sequellae. It is a progressive disease with new complications. These exacerbations may be brought about by impairment of the health, especially by drinking or injuring the head, or may be brought about by emotional excitement and feeling panicky. It leads to a total permanent disability, physical and mental. Fortunately it is painless as a rule and does not cause irritability or depression. These patients are easy to handle. I regard this disease, as far as its progression goes, as midway between general paralysis and Huntington's chorea. Therefore, ten to fifteen years would be the average expectancy of life of a case after surviving the acute stage, the last years being spent in a paralytic and somewhat de-

mented state. This dementia is not accompanied with insight.

In general the course is an acute onset, influenzoid in character, following which the patients usually appear perfectly well for a year or two. Then stiffness or other symptoms develop following which tremors, wet mouth and mental impairment appear. The progress of the disease may be arrested at any level but in most cases it is progressive by stages. I do not regard the Parkinsonian and other states as residuals or sequellae of a self-limiting disease, but as an advanced stage in a progressing disease.

Clinical Forms. I know no modern acceptable classifications of the clinical forms, but a classification brought out in 1921 by A. L. Barker listed the following ten forms:

1. Somnolent-ophthalmoplegic (febrile or afebrile).
2. Paralytic (akinetie or hypokinetic).
3. Amyostatic (Parkinson-like, cataleptic syndromes).
4. Hyperkinetic (myoclonic, choreiform, epileptoid).
5. Psychotic (delirious, maniacal, depressive, etc.).
6. Hyperalgesic (various painful forms).
7. Tabetic (Argyll Robertson pupils, abolished reflexes).
8. Ataxic (chiefly cerebellar type).
9. Abortive (Formes frustes: imperfect, rudimentary, ambulatory).
10. Aberrant (intestinal, cutaneous, vagal, etc.).

Symptoms. "No other disease process affecting the central nervous system presents anything approaching the multitudinous syndromes found in cases of encephalitis; nor such manifold and rapidly shifting features in the same case; nor one that masquerades in the guise of so many other affections of the nervous system, both functional and organic, so protean, so kaleidoscopic and so bewildering. There is, too, such marked variability in symptoms and groups, and symptoms and congeries shift so swiftly and in such a volatile way during the progress of almost any case, that no single group picture can be properly denominated as classical."¹

1. Somnolence or lethargy; variable in de-

gree, duration, time of appearance, may be early or late in the disease; may be absent. Reversal of sleep has often been observed.

2. Headache (H. A.); variable in degree, location, in characteristics, duration, or stage of disease; may be absent; when it appears it is sometimes related to increased intra-cranial pressure.

3. Emesis; rare.

4. Vertigo; usually moderate and inconstant.

5. Eyes; strabismus, dimness, optic neuritis and optic atrophy rare; retinitis; papillitis (or choked disc) rare, probably from general cerebral edema and improved or relieved by spinal drainage, but if not relievable carries a grave prognosis; variable degree of blindness, ptosis unilateral or bilateral; exophthalmos or enophthalmos; conjunctivitis; diplopia, either slight and transitory or more marked and sustained, with images slightly or widely separated in the same plane or above each other or above and to one side and it may be for distant objects only or for both near and those further away; paralysis of the intrinsic muscles of the eye is really frequent though rarely observed and may in some cases only be helped by glasses; nystagmus is frequent and of every possibility in rate, fineness, in the horizontal plane or vertical or rotary, and involving one eye or both eyes equally or unequally; spasm of the extrinsic muscles of the eyes or of the lids or nictitating spasm; pupils may be unequal for a short time or throughout life and may vary from equality to inequality and may vary in diameter from much contracted to widely dilated, may be irregular in outline, may be sluggish, may be Argyll-Robertson type, may be the opposite of the A.R. type; the power of accommodation is impaired whether the intrinsic muscles are involved by spasm or by paralysis; there may be sympathetic or external pressure or complete or unilateral or bilateral ophthalmoplegia; lacrimation variable in extent and duration. In conclusion I may say that I have seen more different types of eye pathology in my patients than I knew existed or that I have seen reported in literature, even by Pardee in New York. It will be a pleasure to have an excellent eye pathologist see a few hundred

cases such as we have around Chicago for the basis of a paper by him.

6. Other cranial nerves; they all may be involved; smell, rare; hearing, rare; facial, rare; trifacial both sensory and motor symptoms such as neuralgia or difficulty in mastication due to weakness or spasm; facial nerve with very temporary Bell's palsy; disorder of taste or the muscles of the tongue or of swallowing; disorder of equilibrium; tic; torticollis; torsion of the back; hoarseness (11th); atrophy of the tongue; conditions resembling bulbar paralysis and pseudo bulbar paralysis.

7. Spinal Nervous System—

7 A—Sensory

7 B—Motor

7 A—Sensory—sensory changes in chronic states are not as severe or incapacitating as the sensory changes in the acute phases and thus the sensory is diametrically different from the motor; rheumatoid pains, headache, trifacial neuralgia, other neuralgia, sciatica, neuritis elsewhere and sometimes diffuse pain in the abdomen resembling surgical conditions; the amount of pain, the fixity of the pain, the duration and recurrence all vary greatly and may vary in the same individual.

Sometimes there is numbness, tingling, paresthesia, hyperesthesia and hypoesthesia; girdle sensations and shooting pains are very rare but have been found in some cases.

7 B—Motor system frequently involved, located in

a. tracts resembling amyotrophic lateral sclerosis.

b. anterior horns

c. root zones (radiculitis)

d. plexuses

e. peripheral nerves.

Disorder of function

a. heightened muscular activity

b. sluggish or retarded activity

c. diminished or lost power of motion

d. reflexes.

a. Heightened muscular activity—may be athetoid or choreiform usually localized in one extremity or in two extremities on the same side and may vary from very slight to so severe as to be incapacitating, exhausting and requiring restraint. It may be a fine tremor or even a mild chronic spasm sometimes resembling epilepsy;

may resemble tic or may resemble fibrillary or nictitating spasm (especially of the lids) or even grimaces. The tremors often are slight and fleeting and may involve only a small part such as a part of the face. The tongue usually is involved if the tremors are coarse and if there is sialorrhoea. There may also be trembling of which the patients are quite conscious and which keeps them from gainful employment. The quivering may involve the whole body and also the head.

b. Sluggish or retarded activity—muscular weakness localized or general, temporary or permanent but rarely involving the involuntary muscles or peristalsis; motor loss in the extremities is usually spastic.

Coordination; ataxia is more often of cerebellar than locomotor type; may incapacitate the patients so they are bedridden.

c. Diminished or lost power of motion—paralysis usually monoplegia or hemiplegia but may be paraplegia, frequently preceded by numbness and stiffness; there may be atrophy in these spastic limbs; there may be contractures.

The spasticity involves the face, the hips, shoulders, elbows and sometimes the knees as described so long ago by Parkinson himself.

Motion is slow in starting and slow in execution. The spasticity may lead to weird or grotesque postures such as a young woman at Oak Forest who listed about 30 degrees to the right side and 10 degrees back. Occasionally there is rigidity of the neck resembling a Koenig.

d. Reflexes—the deep as well as the superficial reflexes usually are normal, sometimes are increased or diminished or lost and the change may be localized and to one side or to one quadrant or any combination of parts. The reflex changes usually are not permanent. Babinski is common and may be found for a few days or for a few months or permanently. Clonus is sometimes present. There frequently is a Romberg.

8. Temperature; rare, but may show sudden changes like sunstroke and is unfavorable.

9. Pulse; related to temperature or intracranial pressure.

10. Respiration; usually normal or related to physical condition or to intra-cranial pressure or to degree of unconsciousness; ataxic breathing and hiccoughing have been noticed, as also have been noticed every recognized disorder of respira-

ation particularly in attacks due to spasticity or ataxia.

11. Mild nasal catarrh or bronchitis or lobar pneumonia or pulmonary edema observed in acute cases.

12. Autonomic or sympathetic, para-sympathetic nervous system involvement;—pathology here not noted but disorder of function is found in practically every case. It varies greatly in different cases and at different times in the same cases.

Skin manifestations of autonomic origin are present such as patchy flushing, eruptions—frequently acneiform, herpes (zoster, labial or genital) sometimes repeated, pupil inequality, muscular atrophy, attacks of sweating localized or general, lachrymation or tearing, continuous coryza and rarely dysfunction of the fat or sebaceous glands of the skin.

Sialorrhea—sometimes the salivation follows involvement of the parotid gland which gland early becomes indurated. Occasionally there may be a purulent degeneration of the parotid gland. This peculiar parotitis is not as contagious as mumps and does not have the dangerous orchitis. The non-purulent salivation which is the most common form may be so extreme as to cause drooling all the time or may be somewhat less and only a great inconvenience. I think over one-half of my patients have complained of wet mouths; either complained spontaneously or on questioning, and said the condition lasted 1 to 2 years, often clearing up without treatment.

Metabolism:—there may be general emaciation although few of these cases develop bed sores or there may be marked obesity. Usually the obesity occurs in persons who have constitutional or family tendency in that direction. Rarely the obesity rapidly fades away. The obese cases seem to be of the pituitary type. I might here and now say that I have never dared to make a diagnosis of a case of encephalitis involving the endocrine glands, but I have had many cases where I thought the virus of E.E.L. involved the sympathetic nervous system and thus altered the function of the endocrine organs. Pituitary diabetes with wasting of body weight I have seen in cases of E.E.L. and these cases the urine showed no sugar, but the volume of the urine though great was not permanently modified by administering pituitrin.

13. The urine and feces show nothing typical or diagnostic that would not be found with the other changes in the body.

14. Blood chemistry has shown nothing diagnostic. In a few cases there has been an increase of blood sugar and in a few cases an increase in white blood cells.

15. Cerebral spinal fluid according to tests frequently used has shown nothing abnormal or diagnostic. In some cases there is an increase in the sugar contained there. This is a fertile field for research.

16. Physical examination shows nothing diagnostic. The heart may be slow and irregularities of the heart have been found, abdominal symptoms either gastro-intestinal or genito-urinary have not been typical nor diagnostic, but a great deal of pathology has been found in some few cases.

17. Asthenia; easy fatigue, lack of energy, difficulty in application and concentration, disorder of sleep, lacking in endurance are all commonly found both in the acute and in chronic cases. There is a definite impairment in work efficiency so marked that in over one-half of the chronic cases I have seen these patients are totally incapacitated for gainful work. They are not self-supporting because they are so weak.

Mental Symptoms. The usual onset is a variable degree of stupor or of sleep. Some patients begin with insomnia which almost amounts to delirium, but this is not found as commonly now as it was found in cases in 1922. Few of the cases are truly depressed, either early or late; they usually can be led to smile and although there is great retardation in productivity or in motor activity there almost always is post initial or continuous retardation. Therefore the cases are not to be confused with Manic Depressive depression. In later years they are rarely depressed and they may have insight into their condition again differentiating it from manic depression.

Hallucinations are rare.

The state of coma of course must be differentiated from other conditions which it resembles, such as diabetic coma, uremia, catatonia, apoplexy or traumatic.

Restlessness, agitation, continuous motion, sometimes euphoria or exuberance have been observed. Mental confusion with or without re-

tardation, sense of unreality like in a trance, delirium or semi-delirium are indicative of the toxemia. Acute cases which are delirious usually die. Insomnia and sometimes reversal of sleep is the rule although increased somnolence is found at some stage or other in practically every case.

Reduction of cerebration or poverty of thought is very, very common. I have not been able to determine whether these patients think few thoughts per unit of time or like a bottle neck holding back traffic their inability to express themselves gives the impression that they have fewer cerebrations.

Children who have not formed their characteristics nor laid down mature reactions according to a habit-pattern are the ones who usually show behavior disorders. This point is a special study of Earl Bond of Philadelphia. Sometimes adults show a personality change and become unreasonable, quarrelsome, mischievous, or surly and untractable.

Most cases continue to change until they become listless and appear indolent and without ambition, although occasionally a perfectly alert mental state is found to exist in some of them.

Moral degradation is not often found, although my friends in the south tell me that E. E.L. patients there become frightfully erotic, so much so that their wives object to their being home over the week-end because they "pound hell out of them sexually".

Usually these patients are gentle and easily handled, and fit in nicely on the wards and lend themselves well to institutionalization. My opinion is that most cases have dementia of more or less degree, usually slight.

Economically these patients fail and they become dependent on the family or on the community.

Differential Diagnosis. Hysteria, Chorea, Epilepsy. Catatonia, Polyneuritis, Meningitis, Poliomyelitis, Encephalitis, other forms not epidemic lethargic; Multiple sclerosis, Botulism and other food poisonings, Brain tumor, Brain abscess, Manic-Depressive insanity, Tetanus, Rabies, Drug poisonings, Typhoid fever, Degenerative brain conditions, Myoclonia, Hiccough, Progressive muscular atrophy, Myasthenia gravis. Surgical states, and the last two cannot be clinically differentiated, viz., influenza in the acute

stage, and paralysis agitans in the chronic stage.

Complications. These are multi-form and can be anticipated knowing the existing pathology. For example, purulent parotitis is usually preceded by hyper-salivation.

Sequels. Dr. Allan C. Parsons made an inquiry into the after-histories of persons attacked by Encephalitis Lethargica in Great Britain for the Ministry of Health, and his report was published in book form in 1928. It is worthy of study by all of us interested in E.E.L. Generally speaking, his conclusions are that of all persons attacked, one-third die in the acute attack. Of those who survive, the disablement in two series of cases (one series of 1,560 cases and the other of 1,744 cases) may be tabulated as follows:

	Series XXI	Series XXII
Sequels not interfering with school or work.....	61	165
Sequels interfering with school or usual occupation.....	100	196
Sequels preventing school or usual occupation	180	461

The last number is the largest and, as time goes on, increases. Generally, the symptoms cause total permanent disability.

Prognosis. With the present forms of treatment and with our present knowledge of the disease and limited by our inability to diagnose it exactly in all cases, we must consider the prognosis not at all good for improvement and not good for normal expectancy of life and not at all good for social and economic adequacy.

Treatment. Practically everything has been tried in the form of treatment. From conferences with other doctors and from the literature, I know of at least 40 different forms of treatment. Two are reasonably successful in meeting the symptoms although not effective in controlling the progress of the disease. They are atropine and hyocine, or the mixture of them, known as stramonium, given in 1 grain q.i.d. doses of powdered stramonium leaves in capsules. Probably levero rotatory hyocine is the effective pure alkaloid.

Glucose 10 per cent. to 50 per cent. intravenously alone or together with sodium salicylate and methenamine given in courses is effective in many cases in relieving the cerebral congestion and edema and thus helps by breaking into the

vicious cycle, or by removing aggravating symptoms, but it is only of temporary help.

Of all new forms of therapeutics, the specific sera as developed for various diseases are, in the opinion of the Rockefeller Institute Staff, the only medicants evolved since 1900 which are standing the test of time. Chemical therapeutics rapidly rise and wane. Non-specific biologicals such as foreign proteid therapies vary in esteem. Specific serum like meningitis serum or tetanus serum, smallpox vaccine, typhoid vaccine, etc., only remain popular. There is need for a serum for E.E.L.

Some interesting work is now being done in the west with an anti-herpes serum, and it is being used for clinical trial on some selected cases even in its present state while research is being furthered to purify it. It is a horse serum based on frequent inoculations into the horse of a saline suspension of the brains of rabbits which died of encephalitis after passage into them of a strain of human herpes virus. Microscopic study of sections of rabbit brain after such a passage shows encephalitis of the human (E.E.L.) kind and not the ordinary rabbit epidemic encephalitis of coccidial type. One reason for believing this serum may be *the* specific is that the same rabbit brain emulsion when filtered and added 1 to 1 to the spinal fluid causes a precipitin reaction in cases of E.E.L. when the control fluids show positive.

The mode of administration as now used is a bit complicated, because treatment is given over such a long period of time. If E.E.L. is the only chronic virus disease we know in contrast to measles and smallpox, then the treatment either must be more intense than we are able to give at the present time in order to eradicate the virus, or the treatment must be given over a very, very great length of time, either to neutralize the toxins in the nervous system or to neutralize the toxins in the tissue where the virus grows and thus give the toxin-freed tissues a chance to eradicate the virus. The serum is given intravenously in 5 cc. doses twice a week with preparation first before starting the course of treatment and a routine preparation before each treatment. Preparation in both cases just referred to is to prevent or minimize allergy reactions. The preparation for giving the serum is as follows: Assuming that the serum is to be

given Tuesday morning at 10 o'clock—on Monday one-half hour before breakfast, the patient takes by mouth one teaspoonful of calcium in water (hot or cold) or in lemonade; again calcium before lunch on Monday, again calcium before supper on Monday, and again calcium before breakfast on Tuesday. Tuesday at 9:30, the patient is given by hypodermic one-fourth grain of morphine sulphate. Tuesday at 9:55 or 25 minutes later, after the zero hour of first hypo, the patient is given $\frac{1}{2}$ cc. of adrenalin; at 10 o'clock or 30 minutes past the zero hour, the patient is given the serum. Initially, to desensitize the patient: on the first day he is given 0.1 cc. normal horse serum into the skin. The next day he is given 0.2 cc. normal horse serum under the skin. On the 5th day he is given 2.0 cc. normal horse serum intravenously. On the 8th day the patient is given 5.0 cc. normal horse serum intravenously. On the 12th day the patient is given 2.0 cc. of anti-herpes serum (i.e., therapeutic horse serum) intravenously, and he is given anti-herpes serum (i.e., therapeutic horse serum) every third to fourth day thereafter or twice a week. Now the calcium mentioned above may be calcium lactate or in another series of cases under treatment at present we use Upjohn's calcionates or in another series of cases under treatment we use calcium-Sandoz or technically calcium gluconate.

The results of this serum treatment are of course sub-judice, but in my opinion the cases treated with anti-herpes serum fall into 3 groups: most of those under treatment for many months appear to have the course and progress of the disease arrested and to have improved remarkably; most of those under treatment 3 to 6 months appear to be getting no worse; and most of those under treatment less than 3 months appear to be unmodified by the treatment, except that all the patients made a slight improvement in the first few weeks which same improvement is observed in practically all control cases who are on any non-specific foreign proteid therapy, although foreign proteid therapy patients show an improvement *only* for the first few weeks. In the next series of cases, attempts will be made to get objective data like tracings, before and during treatment. So far about 2 dozen charity patients, $\frac{1}{2}$ dozen private patients, and almost 2 dozen veterans have been given this form of treatment. The treatment has been given in four hos-

pitals and it is intended to furnish next year some of this anti-herpes serum to a few other institutions. In the meantime work will be done in improving the anti-herpes serum by removing more and more of the proteids and by modifying the rabbit brains by defatting and detoxicating the rabbit brains before they are inoculated into the horses. Unit dosage and the best of various possible modes of administration have not yet been determined.

With proper encouragement, research may be expected to lead to some successful method of combating this new and dreadful enemy of mankind.

SUMMARY

Epidemic Encephalitis Lethargica (E.E.L.) is now a prevalent and serious disease in this country. It is but little understood, except some of its clinical manifestations and sequels. To date researches and studies have not led to effective measures to control it nor to successful treatment. There is not yet available any satisfactory therapy. Every attempt to solve its problems should be encouraged.

It is worthy of a state survey in Illinois by the State Department of Health plus the U. S. Public Health Service plus the State Department of Public Welfare. It is worthy of a national survey by the National Research Council plus the U. S. Veterans Bureau, because the U. S. Veterans Bureau has already the greatest number of cases of E.E.L. in the U. S. on its rolls. In the U. S., there are no special institutions for research, care and custody, treatment, and for comparison of therapies, like there are abroad, but the U. S. Veterans Bureau is considering maintaining its small military hospital at Dwight, Illinois, and making it solely an Encephalitis hospital if the Bureau is sure of medical support from the medical profession in Illinois.

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DISCUSSION

In a general discussion by the members of the McLean County Medical Society it was brought out that this disease has for ten years been mildly epidemic in this community, that the death rate and amounts of disablement are higher than the essayist had indicated, that sometimes it is impossible to differentiate other forms of encephalitis (e. g., post-measles encephalitis with cerebral edema) from epidemic encephalitis lethargica (E.E.L.), that there is a demand for diagnostic laboratory tests, that there is a great demand for adequate

therapy both in the acute and in the chronic stages, that clinicians need information about it, that the x-rays in showing adhesions by using lipoidal injections may be of diagnostic assistance, that the state authorities should actively interest themselves in this disease, and by resolution the U. S. Veterans Bureau was notified that the Society not only recommended that the Bureau continue their military hospital at Dwight, but that the Bureau convert it into an encephalitis hospital where a demonstration group of cases may be given adequate care and custody with proper classification and where clinical research may be made, and where by contrast the various therapies may be compared. The Bureau was reassured of the support of the medical profession, for the increase of knowledge gained by either would be shared by all.

WHAT THE PHYSICIANS OF ILLINOIS HAVE A RIGHT TO EXPECT FROM THE COOK COUNTY HOSPITAL

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The Cook County hospital is, or will shortly be, the largest hospital in the world. As far as buildings and equipment go it is worthy the great city in which it is located. It has an enviable record in the training of medical men, particularly those who have served as internes. It has furnished clinical and pathological material for teaching medical students for many years. It is still a great teaching centre, in many ways, the greatest in Chicago, owing to the great variety of material offered. It is the only place where internal medicine may be taught in a systematic way with the assurance that when a certain type of clinical case is required, it may be found. It has offered to practitioners for several years a clinical pathological conference of exceptional value and has been the regular meeting place of one of the largest of the component branches of the Chicago Medical Society.

It would seem on listing these activities that the Cook County Hospital has satisfied the logical requirements of the local profession and of the physicians of Illinois. Any hospital such as this has a duty to the community. It is supported by the taxes of the people of Cook County, and is run primarily in behalf of those citizens who are unable to pay for proper care. The people have a right to demand of the physicians who serve voluntarily on the hospital staff that they conduct the hospital to the best advantage of the

patients on the one hand, and for the benefit of the community in acquiring and promulgating medical knowledge on the other hand. The members of the staff of such a hospital should consider that they have not only the privilege of study but also that they are responsible to the entire medical profession in helping to promote medical knowledge. The physicians of Illinois have a right to expect certain things from the Cook County Hospital.

In the first place the Cook County Hospital should be a place for clinical study. One hears a lot about research nowadays, particularly in university circles. We ordinarily associate research with laboratories and guinea-pigs. Experimental research belongs to the universities and is out of place in the hospital except as certain aspects of clinical problems may best be carried out in the laboratory. There are, however, many purely clinical problems, the solution of which lies in the wards and clinical laboratories connected with them. Some of these problems are of purely scientific value with no evident practical application. Frequently such problems turn out to be of great practical value. Many problems are of great practical value while having little scientific interest; this holds particularly for questions of treatment. They are apt to be neglected in university research or the results arrived at are impossible to check on a sufficient number of cases. Such problems are of the utmost importance to the medical profession and should be studied particularly in the large general hospitals. The University of Illinois maintains a research hospital across the street from the Cook County Hospital. The physicians of Illinois have a right to expect the closest cooperation between these institutions and they should be mutually most helpful.

Again the physicians of Illinois have a right to expect that the members of the staff of the Cook County Hospital will give them the benefit of the results of their study. The meetings of the State and of the various county societies are of course open to them to present their findings. Short courses at the hospital yearly should be devoted to the presentation of the results of study and would be well attended were the studies properly presented. Such courses would be an excellent means of showing just what the staff is accomplishing.

Of more importance is the opportunity that should be available for longer periods of post-graduate study by those men who may be found to be deserving. There has developed an unfortunate state of affairs or perhaps better, there has been no attempt to remedy a condition which has always existed. The young man, after serving his internship, goes out into the world to solve the problem of existence, and there has been no effort to follow him and help him. He has graduated and is licensed to practice medicine but should consider that at least ten years of further study are needed. A large part of the information needed may be acquired by his own efforts, some from his colleagues, some from consultants whom he calls in on his hard cases, from medical meetings, and from various sources. There has been no systematic follow up method devised by which he may be helped. The post-graduate schools leave a lot to be desired. Many of these men could be given the opportunity to join a study team, to do a certain amount of routine work of value and to have the opportunity of browsing in the wards in return. Many men, after a few years of general practice, develop a special interest in a certain department in which they wish to specialize or find they are lacking in certain lines. These men could give their services in return for the opportunity offered to mutual benefit.

A few of the younger men will be found capable of independent research. These men should be given the opportunity to pursue their studies with proper equipment and possibly financial aid. Competent advice should be available to encourage them in their work. Library facilities are fortunately unusually rich in Chicago.

All these things are properly expected of the County Hospital by the physicians of Illinois. It is not easy for the staff of the County Hospital to meet them, however. The staff has been earnestly striving for several years to meet them and has progressed a certain distance. The County Board has recently appointed an eminent pathologist, Dr. Jaffe, as chief of the department of pathology of the hospital, and has made an appropriation to cover the cost of assistants, technicians, etc. The County Board is anxious that the hospital attain a leading place among similar institutions. Much larger appropriations are needed, however. A large hospital such as this

has an immense amount of routine work to be done. Much of the real study must be done in addition to this routine. Scholarships should be made available by the medical schools of the city and possibly by the Chicago Medical Society and the Illinois State Medical Society. The matter of administering such funds as may be available might well be entrusted to a small advisory committee representing the staff, the colleges and the medical societies. The staff needs the backing and moral support of the medical profession of the State in its efforts. With this backing it will be possible to accomplish great things for medicine in general.

The physicians of Illinois should be interested in making Chicago the greatest medical center in the country. The most important factor in this aim is the Cook County Hospital. With a plant representing an outlay of millions, an annual budget representing the income from many more, with the greatest amount and variety of clinical material, there is only needed a relatively small additional sum to make the hospital productive. The cooperation of all the medical organizations in the state is necessary to bring about this result. The staff should be encouraged in their efforts and should be spurred to even greater zeal. There are many obstacles to a complete accomplishment of ideal conditions, but these can be overcome by a united effort by the medical profession of the State.

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THE MAKING OF A SURGEON*

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Some twenty years ago at a Christian Fenger memorial banquet Dr. Frank Billings made this significant remark: "There are many excellent operators in Chicago today, but only a few surgeons; at the head of this small group stood the scientist whose memory we are honoring this evening." Billings' remark applies equally well to present-day conditions throughout the country and justifies the comment of a visiting foreign surgeon. This colleague stated that he had witnessed the best and worse surgery while unofficially visiting American hospitals. By bad sur-

gery he did not necessarily mean poor technique—Sir Arbuthnot Lane once remarked of one of our well known operators that he possessed "Simian agility"—rather did he wish to stress the fact that in many operations the indications were faulty, judgment poor or physiologic considerations ignored.

Given a moderate amount of natural manual dexterity, most of us can become operators, but in our hurry to "get there," we are apt to shorten the period of our apprenticeship in surgical knowledge. We, for instance, enjoy the questionable distinction of being the only country in the world having laboratories of surgical technique. During the World War I had occasion to discuss with the late Henri Morestin—a maxillo-facial plastic surgeon, who had also been a gynecologist—the possibilities of drawing more American doctors to the Paris clinics, of supplying us with English-speaking instructors as was done in Berlin and Vienna. Doctor Morestin said to me: "We would be happy to teach our American colleagues what we know, but you are always in too great a hurry!" He then went on to tell me about a certain countryman of ours who, some years before the war had expressed a desire to study gynecology in Paris. "Very well," said Morestin, "the first year you will see my patients with me, watch me operate and study the tissues in my laboratory. The second year you will begin examining patients, making diagnoses and acting as second assistant in the operating room; the third year—" "But, my dear Morestin," said our fellow-countryman, "all this is impossible; I only have three months to spare!" "Would you believe it," added the Frenchman sadly, "your swift American went to Vienna that same day, engaged a privat-docent for three months and, six months later, published a text-book on gynecology!"

It takes time to become a surgeon; not weeks or months, but years of study before the man who is honest with himself can begin to be satisfied with his grasp of this specialty. Complete satisfaction is a sign of decadence; there are continually brought out new physiologic discoveries which may modify surgical indications or operative technique; the internist may cause many present-day surgical diseases to become discarded in favor of more rational procedures—anybody, for instance, who believes that the last word on thyrotoxicosis or on the interrelation of hepatitis,

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pancreatitis and cholecystitis has been spoken, is deluding himself.

In 1913 it was my privilege to sit at the feet of Bassini for ten days. Padua, Italy, was too poor to modernize its hospital buildings, operating amphitheater or equipment. The operating table was a piece of slate on four legs, minus any of the head and foot rests, kidney elevators or Trendelenburg tilting devices which we deem so necessary. Bassini and his three assistants sterilized the instruments themselves and took turns giving chloroform anesthesia. Watch in hand, I observed their superb technique. Turn and turn about, each of the three assistants became chief surgeon. There were no useless motions, no loss of time, no rough handling of tissues. Each patient had been carefully studied before the type of operation and its extent was decided upon and it was rare to have to change the pre-operative diagnosis after the four men had passed judgment. In an uncontrollable outburst of enthusiasm I inquired one day how long the quartet had been working together. Pointing to the youngest surgeon, Bassini smilingly said: "This, our infant, has been with me fourteen years; my second assistant eighteen, and my primarius twenty-five!" No wonder they could finish a herniotomy in thirteen minutes or disarticulate at the hip for sarcoma in thirty! We in America cannot duplicate such examples of long-continued association, yet it would be well for the public if similar conditions were possible. Three years' apprenticeship should be the minimum required for an aspirant in surgery, providing that spare hours be devoted to research and operative surgery on the cadaver and dog. By that time judgment will approach parity with technique and enable the young surgeon to undertake all but the rare and highly specialized types of operations, for the correct performance of which the masters can be counted on the fingers of one hand.

The surgeon should not only see that part of a patient which he intends operating upon, he must study the entire body. In order to be able to do this, it is necessary for him to keep abreast of our knowledge of physiology for, not infrequently, the laboratory man or woman will elucidate a new and correct interpretation of a clinical phenomenon which compels the surgeon to alter his own views and change his treatment. It is the physiologist and not the clinician who

proved that fever was a protective reaction—antipyretics have justly fallen into disrepute as the result of this one observation. The thoughtful surgeon should watch the infant endocrine studies; while, to date, thyroid extract is the one glandular substance whose usefulness in selected cases is of distinct value, the infant may suddenly attain manhood and displace many of our present day surgical procedures. Bio-chemistry bears watching; surgeons may some day learn or unlearn a lot as the result of new discoveries. While manifestly impossible to read laboratory journals, it does not take long to glance at titles of articles—one will, not infrequently, pick up a hypothesis which may have some surgical importance. This present day is the physiologic era of surgery; we are more and more concerned with nature's processes of defense and repair and all of us should strive to work hand in hand with nature, not against her. As Moynihan truly says: "We do not so much seek to kill germs within a wound as to encourage the wound in its process of resistance to their attacks, to exalt the natural bactericidal power of wound discharges."

Lest some of my friends accuse me of being over-critical regarding the status of surgery in America, permit me to quote from one of Sir Berkely Moynihan's addresses, delivered before and for the benefit of his British colleagues: "Surgery," he says, "is not learned easily. The training is arduous and protracted; indeed, it lasts a man's lifetime. There is today too much bad surgery, surgery performed by those who have, perhaps, some natural skill which has never been trained and moulded to right practice. Much of the inferior work now being done could not continue and would never have begun if the large hospitals today were doing their full duty to the public. The changes that have taken place in surgery, the great increase in the number, intricacy and scope of operations have made it far more necessary than ever before that the surgeon should be a skilled craftsman. To practice the craft with something near perfection a man must surrender his whole life. To attain a certain facility in operative work is not difficult; man is the most imitative creature in the world. Standardation of operations has unhappily led to the too frequent performance of operations and to their performance by those whose judgments has not kept pace with their technical

accomplishments. If surgery is to be something more than a wonderful craft, if it is to be the instrument of research which I believe it to have been, and to be destined to be in the future, those who practice it must have their minds shaped and strengthened by conflict with unsettled problems, not cramped and sterilized by monotonous exercise within a narrow province of static knowledge. The training of the surgeon must not only allow, it must urge his mind to stray beyond the hard boundaries of old knowledge, over the edge of firm beliefs, into wide territories as yet unexplored and even undivined. In this way only is there escape from the danger which besets the surgeon in the future, the peril of facile automatism. In this way may the physiologist be brought back from his vagaries and encouraged to realize that his scientific best fulfils its destiny when it is applied to the understanding of the functions, normal and aberrant, of the organs of man. Advances in surgery are made by men who, to the faculty of observation, add the power of conceiving and carrying out experiments, not in the laboratory only, but also in the operating room and in the wards."

At a recent meeting of the Academy of Medicine of France in Paris, Professor Quenu, seconded by Professor Rouvillois, proposed that the right to perform major operations be reserved to those who, after taking the doctor's degree, have completed supplementary courses of study fitting them for such work, and spent a period of two or three years in a surgical service in which they had opportunities to perform operations themselves under the surveillance of their instructors. After many and long discussions the Academy of Medicine finally adopted this solution which, however, is only a resolution and will not have any direct effect unless it is transformed into a decree by the superior council of public instruction and is finally approved by the minister of public instruction.

Moynihan says that the object of the study of surgery is to "acquire direct knowledge, accumulate facts from a multitude of individual examples to raise a broad truth, to weave generalizations and, in its highest accomplishment to link cause and effect. As science surgery has not only separate existence, but in its wider sense it is related to and dependent upon many other sciences: upon biology, chemistry, physics, anatomy and physiology. Discoveries in these sciences not

seldom react upon surgery whose progress has in the past often taken impulse from them, whose progress cannot now continue without them. Surgery is a science of exact observation of inductive reasoning, of pursuit and discovery of broad truths, a method of seeking the causes no less than the remedies of many of the diseases which afflict mankind. As art, surgery is incomparable in the beauty of its medium, in the supreme mastery required for its perfect accomplishment, and in the issues of life, suffering and death which it so powerfully controls." And again: "Surgery, merely of the 'brilliant' kind is a desecration. Such art finds its proper scope in tricks with cards, in juggling with billiard balls, and nimble encounters with bowls of vanishing gold fish!"

The surgeon should have a creative mind, as well as the technical ability to place his ideas on a sound anatomic and physiologic basis; otherwise, he will go through life a routine man, blindly accepting each new fad in technique without subjecting the latter to individual scrutiny. Such a surgeon forcibly reminds one of the well known phonograph advertisement which depicts a dog listening to "his master's voice"!

No opportunity for testing out one's technique on the cadaver or dog should be missed. Visceral surgery should always be learned on living tissues—dog surgery. It is impossible to obtain the proper sense of touch, of resistance to needle and thread, when working in dead tissue. Bone and joint surgery is best learned on the cadaver, unless one is trying out some process of repair. The blood and nerve supply of all parts of the body are of prime importance; this is especially true of visceral resections and anastomoses. The nerve supply of the abdominal wall has been the subject of my associate Dr. P. J. Sarma's studies for the past two years and we confidently hope to see fewer post-operative herniae as the result of this work.

My honest advice to aspiring surgeons is to avoid large surgical meetings, but rather to devote their leisure hours or days in quietly visiting those surgeons whose writings stamp them as original thinkers. To be invited to don mask and gown and lean over the master's shoulder is invaluable; many a technical difficulty is overcome by watching somebody else operating; there is a free interchange of experiences, observations and conclusions not possible in the midst of a

vast concourse of surgeons. Not infrequently one may learn what not to do in a given case by observing difficulties with which the operator is struggling. I know of no better method for banishing discouragement than through these periodic visits; it makes one realize that other colleagues encounter the same disappointments. Most surgeons are at their best when unhampered by large audiences, quietly performing their operations surrounded by a few visitors who silently watch him and as silently draw their own inferences. Whenever time permits, study the charts of those patients you have seen operated upon, consider the clinical indications for the operative procedure and ask permission to follow these patients as they convalesce. No honest surgeon will refuse this privilege; it implies a desire to verify the "raison-d'être" of the operation by its after effects on the patient himself. When you are teaching surgery there is no more valuable lesson for the students than a procession before their very eyes of patients operated upon at previous clinics. They want to know, and have a right to know, what the final picture looks like. Report your fatalities with post-mortem findings; don't be afraid to discuss a possible error of judgment on your part; be as honest with your students as you should be with your patients. Let your associates, assistants or interns do part of the surgical work; watching is learning. As they show increasing dexterity while maintaining that profound respect for gross anatomy without which nobody can hope to become a surgeon, allow them to attack the more delicate steps of an operation, advising, suggesting and correcting. Not infrequently you will yourself pick up a new technical point or grasp a new idea which you can further develop. Whenever time permits, discuss the pre-operative diagnosis of your cases with your interns and get their opinions, with reasons therefor. Remember that your young colleague's brain is seething with undigested theories and facts; he may suggest something you have forgotten or never known, or you may remove some useless barnacle which has been overcrowding his brain cells; in either case somebody profits by the interchange of ideas.

Don't be satisfied with a mere reading of the pathologist's report; study the gross pathology with the technician and keep familiarized with microscopic slides. Question physiologists re-

garding today's newest theories; they may be facts by tomorrow.

Spend as much time as possible in the x-ray laboratory when fluoroscopic examinations are being made or plates taken. To be able to instantly diagnose a minute ruptured gastric or duodenal ulcer by seeing a thin layer of air between the diaphragm and dome of liver is dramatic and impressive.

Is this life of hard work, of perpetual attempt at improvement which I have endeavored to paint for you worth while; does it pay? There are easier ways of making money than through specialization. Unfortunately, we here in America do not compensate the thinker by according him social distinctions as they have always done in the old world. In Europe a scientist could or can be underpaid because he was and is so immeasurably superior in quality to any man who is merely able to make money, that inferiority in material means really only compensates overwhelming advantages. For better or for worse, in our every day life, we do not place the scientist on a pedestal—far from it. We unmistakably manifest our adulation for profits and not for knowledge. Facing these uncontrovertible facts, is it worth while becoming a specialist in surgery? Yes, if one is tired of slavish imitation, if one is quality rather than quantity minded, if there is within one the urge for greater individual originality in the conduct of surgery and a refusal to accept the dollar sign as the common denominator of success. Remember that "only he has a beautiful and intensive life who, all his life, pursues an attainable object, never attained—he who, with equal ardor, passes from one objective to another."

PSYCHIC IMPOTENCE IN THE MALE*

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In Urologic practice we are beginning to see with increasing frequency cases of sexual impotence or inability to perform satisfactorily the sexual act in men who are still well within the limits of physical and mental vigor. In the majority of these cases the most complete physical examination fails to disclose any satisfactory cause for the condition. The real cause lies deeper. If we wish to benefit these patients we

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must delve into their mental life by a series of adroit questions, and, gaining the patients' confidence, we are very often able to unearth the real basis of the sexual inability and to correct it. Often the co-operation of a psychiatrist or endocrinologist may be necessary. Personal observation in several such cases will be referred to later, but before doing so it may be of interest to look into some of the current views regarding impotency in the male.

CAUSES OF IMPOTENCY IN THE MALE

Although it is often difficult to draw clear lines of demarcation, yet in a general way the causes of sexual impotence in the male may be classed as: (a) local; (b) functional; (c) psychic.

(a) *Local Causes.* Impotence may be dependent upon some anatomic alteration, either congenital or acquired, which directly involves the sexual organs or tissues and organs which have a physiologic connection with the functions of the sex organs.

Congenital absence of the testes, congenital failure of development of an acquired condition, such as *induratio penis* or traumatism may be such a local cause. In such cases there may be a strong sexual desire. There may or may not be a sufficient power of maintained erection, but there is a mechanical hindrance to copulation. Literature shows an abundance of such cases. Ortali¹ recently reported a case of plastic induration of the penis with impotence due to a gumma of the left *corpus cavernosum*. He had previously² reported three other cases in which the etiologic factor was gonorrhea. In such cases there is not only *impotencia coeundi* but also *impotencia generandi* because the penis cannot penetrate the vagina.

(b) *Functional Impotence.* This is a real impotence which may be either complete or incomplete; temporary or permanent. I divide it into three types—the nervous, pathologic, and what may be called biologic.

In connection with the nervous type of functional impotence, we must consider the nervous stimulants to erection, and factors, apart from psychic, such as the internal secretions which may possibly affect these nerve stimulants.

As far as is known the stimulus to erection comes from the central nervous system. It may rise indirectly from the spinal cord roots as we

see in cases of traumatism to the cord whereby a priapism is set up.

The cerebral center may be affected by impulses coming from peripheral nerve endings or any irritation of the pubic nerves. It may also be affected by impulses due to excitation of the special senses or by psychic impulses. Possibly some endocrine secretions may have the power of starting nervous excitations which stimulate the erection center of the brain. Whatever may be the source of stimulation of the cerebral center, the consequence is a feeling as natural as that of hunger or thirst, or the desire to urinate when the bladder is distended.

Veeki⁴ cites Landois as saying that "continued inactivity of nerves diminishes their irritability even to annihilation," and sexual faculties not kept in sufficient practice are weakened thereby. Every gland, consequently also the sexual glands, requires a certain amount of excitation of its nerves in order to produce energetic action. Every muscle, consequently also the muscles of erection, become strengthened only by exercise. Prolonged abstinence as a rule impairs sexual vigor. Under this heading, too, comes what Perry³ calls *pubic ennui*, a nervous exhaustion limited to the nerves of the sex organs due possibly to focal infection.

It may therefore be accepted that continuous ignoring of the sexual urge, or continence, tends toward a dulling of the power of erection and thus to impotence. Especially is this so when a corresponding psychic condition or a desire to suppress sexual feeling accompanies the continence. This will again be referred to when dealing with psychic impotence.

The first evidences of impending impotence in the sexually continent are premature ejaculation when coitus is attempted, and sexual neurasthenia.

In normal man, quite apart from his own feelings or idea regarding sexuality and the exercise of its functions, there is a natural desire that the pressure of stored semen should be reduced by discharge. This may and does set up a nervous condition by which the ejaculatory organs are excited, quite irrespective of the individual's desires regarding the matter. If consciously suppressed, nature takes care of the situation by effecting the discharge in nocturnal and other

emissions. This, although it may be accompanied by erotic dreams, can scarcely be considered as a psychic, but rather as an organic matter.

We may readily conceive that, since an erection may be due to a conscious impulse, an inhibition of erection may also follow from the same type of conscious or unconscious impulse of the opposite character; and just as a constantly exercised nervous stimulation may ultimately lose its effect, so also the loss of the sexual urge and impotence may in time follow prolonged conscious or subconscious suppression of the impulse to erect. By an act of the will, the idea of erection as a sexual excitant may become an aversion.

So far as we have gone, *impotencia coeundi* may be a purely nervous phenomenon. The power of erection at will, as a direct nervous, sympathetic or reflex nerve function, may be lost. In the extreme cases there may be more or less atrophy of the penis or at least of its erectile tissues and muscles.

The extent to which the gonadal or other endocrine secretions affect the power of erection and full performance of the sexual act is only a matter of conjecture, but one may assume that they do play a conspicuous part and, if so, failure of such secretions, through a fault of development either glandular or nervous, must be considered as a cause of impotency. Eunuchoids come under this heading (as well as those who have some degree of hermaphroditism), although perhaps it would be more proper to class them under the heading of anomalies of anatomic development.

According to Vecki, premature sexual impotency and the subsequent senility are pluriglandular deficiencies. It is evident in many cases of marked thyroid, pituitary or other glandular deficiency, that lack of sexual power and desire is almost constantly present.

Pathologic Functional Impotence. As a general rule, disease of any kind weakens sexual power, and chronic disease may cause sexual impotence. This not only refers to organic lesions but also to psychic lesions. One of the common causes of functional impotence is the improper performances of the sexual act, such as withdrawal or delayed ejaculation. Improper con-

gestion causes premature ejaculation, which causes the over-stimulated nerve centers to become exhausted, resulting ultimately in a condition of impotence.

Biologic Impotence. Senile impotency as a type of biologic impotency is a natural phenomenon and is synchronous with general loss of physical and mental vigor. It scarcely comes within the scope of this paper.

Another type of biologic impotence is that due to lack of co-operation on the part of the conjugal partner—the so-called female frigidity—in which there is a lack of orgasm and a consequent incompleteness and dissatisfaction to the normal man. This lack of mutual satisfaction lessens desire, creates a condition of distaste and a type of aversion, with failure of erection or maintenance of erection and in time impotency, at least as far as the particular partner is concerned.

The human female, constitutionally passive in sexual feeling, has, under modern sociologic progress developed a neuro-degeneracy in sexual functioning. Passivity is becoming an aversion, and the condition is reacting on the male. The divorce court is the sequel according as the man is polygamous or not.

(b) *Psychic Impotence.* In psychic impotence there is no real impotence as in the conditions already mentioned. The patient has really *potentia coeundi et generandi*, but he imagines and is convinced that he has not. Every physician knows that a fixed mental idea suffices to inhibit actual organic functioning and literature abounds with examples where organic dysfunctioning results from purely psychic causes. Furthermore, the actual symptoms of disease may be suffered or simulated by psychotics where the actual disease does not exist. It is not difficult to conceive then that under the circumstances patients may fully convince themselves that they are impotent and may, by the force of such mental conviction, be unable to perform the sexual act, although in reality nothing but their state of mind prevents them from doing so.

Psychic impotence in males is today far more prevalent than is commonly believed. It is no exaggeration to say that most cases of impotence seen by the urologist are of this type. We will find that in the majority of these cases the condition can be traced back to the restrictions

placed by our present day accepted standards of social morals and civilization on the exercise of normal sex functions. There are other causes, of course, but I believe that the cause stated is far ahead of all others as a basis for the spreading psychic impotence. It is an historical fact as well as one observable today that the lower grades of human society are more prone to sexual promiscuity and sexual indulgence than the higher classes.

When we question the causes underlying this development of civilization and progress, we find that economic factors and standards of living are such that a large number of men cannot afford to marry, at least while young. Many deliberately suppress their normal sexual desires; others abuse them to excess without the responsibility of marriage. Those who do marry do not exercise their functions normally either because they do not want or cannot afford to have children; and women, if not actually averse or even hostile to coitus, submit to it unwillingly rather than acquiescently. Civilization and higher education tend to regard the exercise of the sex functions as brutal and degrading, and morality teaches sublimation of sexual desires. All these factors in one way or another favor sexual impotence. The medical man sees that on physiologic and hygienic grounds modern tendencies cannot be reconciled with the observed clinical facts.

I have seen many of the results of impotence myself. Many of these patients are in a sub-schizophrenic condition, depressed, morose and dissatisfied. I do not feel competent to express an opinion on the purely psychiatric aspects of this matter and I cannot therefore do better than cite some of the opinions expressed by psychologists on this matter.

Steiner, cited by Cassity,⁵ classifies psychic impotence into three categories: (a) those affected with inferior constitutional sets; (b) those deterred by pre-adolescent sexual developments through obnoxious familial influences; (c) those developing impotency concomitantly with the onset of senility.

Jones, also cited by Cassity, gives two factors which especially predispose to psychic impotency, viz.: the fear of punishment for sexual activities and the tendency to associate the female genitalia with the organs of excretion.

Cassity himself divides the psychic impotencies into the following groups. First, those patients psychically traumatized at weaning or those mother-bound and who may develop into latent or active homosexuals. Second, those individuals libidiously fixated to pre-adolescent love objects in a fashion latently incestuous. Third, those individuals sexually traumatized through inadvertent pre-adolescent induction of incestuous nature. Fourth, those whose love energies are dissipated for avenging imagined parental neglect or desertion (death or jealousy of parent).

Cassity says that in the second group fixation of the libido on an incestuous object, never fulfilled, may cause such an intense orientation in that direction that the individual is incapable of turning toward another. He may ultimately boast of fulfilling the sexual act with his loved one; that is to say, a man loving his sister may, when she is married, claim that he is the father of her child.

Cassity gives examples of psychically impotent individuals coming under all these headings. He generally finds that the functional psychosis bears a relationship to taboos and social prohibitions and that there is a retention of infantile love objects and modes of satisfaction in phantasmal pre-adolescent influences which register in the psyche rather than in the sexual soma. Gonadal changes result secondarily from the psychotic disorders, but in younger individuals impotency notions are as a rule stimulated predominantly by psychic factors rather than by actual gonadal disintegration.

Impotencies of the types mentioned by Cassity are no doubt frequently seen in psychotic subjects with obsessions, but they are not exactly the types seen in an urologist's practice. McCartney's⁶ classification comes nearer to these latter. He gives as the factors in psychic impotence, fear of consequence, aversion to partner, aversion to the sexual act, jealousy and psychic shock in nervous individuals who are highly impressionable either congenitally or by upbringing.

Fear or anxiety, according to McCartney, is frequently the most important cause of sexual failure, especially with those who have had a mawkish training. Being subject to emissions, they know of the after-weakness and the reading of literature increases the fear in their minds. They continually dwell on supposed mental decay

and loss of manhood and first attempts at coitus are failures. Later, a jest or taunt or worry may result in failure also, and they gradually grow impotent.

In my own experience I have gleaned a number of facts which lead me to believe that the causes of psychic impotence may be extended.

There are many men who on account of the indifference or evident aversion of their conjugal partners to coitus have gradually suppressed their emotional sexual feelings and weaned themselves by degrees from the practice of the sexual act. Having a high sense of rectitude, of fidelity to their spouses in sexual matters, they have never thought of other women, they become deeply absorbed in business matters. After living several years of suppressed sex life they find that they are impotent in regard to their conjugal partner and fully believe themselves completely impotent.

In another class are those who have for years suppressed sexual desires and have forced themselves to continency for other reasons. The final result is that they believe themselves completely impotent also.

Cases of incompatibility of conjugal partners are unfortunately extremely common. Although many of these find a solution in the divorce court, yet there is still a multitude of men who on account of a high personal rectitude and their respect for a contract, or perhaps from a religious motive, would not consider a divorce on such a ground. They dissociate themselves gradually from conjugal relations, and their aversion makes the sexual act distasteful and impossible. Finally they become impotent. In these cases the phenomenon is the opposite to fetishism. They are really impotent to only one particular woman, but they do not know it nor do they believe it.

There are men who are so occupied with their business affairs that they are absent a good deal from homes or their wives are often absent. Suppression of normal sexual exercise becomes a habit with such men. In the absence of extra-marital sexual relations, combined with intense over-taxation of brain energy by business, the sexual instinct becomes blunted and inhibited. A condition of impotency and indifference results. Should circumstances arise in which these men desire to exercise sexual relations normally, they find it difficult or almost impossible to do so satisfactorily.

Treatment. In the matter of treatment, I will say only a few words. In impotency due to anatomic malformations, practically nothing of value can be accomplished.

In the functional impotencies, aphrodisiacs, tonics, physical therapy (hydro- and electro-therapy including ultra violet rays) have their indications and may be used with discretion according to the nature of the case. With patients who are temporarily impotent, owing to constant sexual irregularities, all sexual excitants should be proscribed for a period of at least six months. The services of an endocrinologist may be called for in cases in which the internal glandular secretions may be believed to be faulty. No regimen can be laid down for the treatment of functional impotency, as it will depend on the underlying conditions, which must be earnestly sought for.

In psychic impotency the main curative method will be sympathetic psycho-therapy and suggestion to remove the patient's fears and morbid anxiety by persuading him that he is really potent. The ordinary methods of treating functional impotency will do little, if any, good in the case of a psychic impotency. In these cases the psychosis must first be dealt with. These patients, if allowed to brood on their condition, may develop a schizophrenic condition. In this connection I may state that, in discussing Cassidy's paper, one of the speakers observed that the development of satisfactory homosexual adjustment is full sexual adjustment from a psychobiologic standpoint and that it insures against schizophrenia as surely as does satisfactorily heterosexual adjustment.

REPORT OF CASES

Case 1. Mr. E. J., aged 36 years; white; married; consulted me for loss of sexual function.

Personal History. Patient never contracted any venereal disease. Has never been of a very ardent sexual nature. Married ten years ago and was able to fulfill his marital relations satisfactorily until four years ago. Since then he has not been able to get an erection or at least only a very transient one. He had come for advice and treatment at his wife's request.

Examination. A thorough physical examination failed to disclose any anatomic or pathologic grounds for his condition. The prostate was not enlarged. Thinking that there may be some endocrine disorder, the patient was referred to Dr. Maximilian Kern for an endocrinologic investigation. Except

for a slight sub-thyroidism the findings were negative. The patient who was nervous and somewhat emotional was of a type that might be affected psychically.

Upon close questioning it was elicited that the man was entirely dominated by his wife of whom he was afraid. He confessed that on a few occasions he had indulged in extra-marital sexual relations and that on the last occasion he had been surprised in the act by a female relation of his paramour. Since then he has lived in terror that the knowledge would reach his wife. The very thought of intercourse has been distasteful to him and since that time he has been unable to perform the act.

This was evidently a case of psychic impotence due to fear. I could only inform the patient to that effect and advise him that the condition would probably continue until he overcame his fear. I do not know the result.

Case 2. Mr. M. H., aged 42 years; Spanish-American; widower.

Personal History. Patient contracted gonorrhea about twenty years ago for which he was treated and states he was cured. He had a new attack two years later which he treated himself and recovered. Married at age of 30 to a woman some years his senior. No children. Although he had always been of a strong sexual disposition, for the last two years he has been impotent, which he thought was due to having had gonorrhea.

Examination. No anatomic or pathologic reasons for his impotency could be found. No evidence of gonorrhea in any part of the uro-genital tract. The external genitalia appeared quite normal and his physical condition in general seemed to be quite perfect.

This was evidently a case of psychic impotence in regard to his relations with his wife. Finally it was elicited that he never had any particular affection for her. His sexual feeling towards her was neutral and intercourse was practiced more as a physical necessity than on account of sexual attraction. About four years ago his wife developed a large disfiguring adenomatous goiter and he confessed that his feeling toward her which previously had been apathetic became one of aversion. He had lost all sexual desire, but from considerations of duty he had never thought of extra-marital intercourse. He had not experienced an erection for over three years. The man's wife died a year ago and he now had the opportunity of marrying a woman he really cared for, but his constant dread of impotence kept him back and he avoided her company.

I advised this man that his condition was psychic; that he should cultivate the company of the woman he liked as much as possible, cease to imagine that he was impotent and encourage his sexual feelings. I saw him several times later and he gleefully informed me that he was overcoming his morbid fear.

He has since married and his sexual potency is quite satisfactory and improving with time.

In the two cases following the impotence was more properly a type of fetishism or sexual perversion rather than a true psychic impotence.

Case 3. Mr. H., aged 28 years. In the course of a urologic examination it transpired that he could only experience sexual excitement if the woman urinated, and the excitement was all the stronger if she urinated over his body. It appeared that his first experience of sexual gratification was connected with an episode of this kind and no other sexual stimulation could excite him. He was impotent outside this fact.

I thought that this case was rather peculiar until a short time ago when reading the "History of Florrie" in Havelock Ellis's last issued volume (Vol. vii, 1928) of "Psychology of Sex" several similar cases are related.

Case 4. This case of impotence was in a man aged 38. It was similar to the last case only that in this case the sexual excitation could only be obtained by the smell of feminine perspiration, especially the effluvia from the armpits. With such stimulation the man was quite potent. Without it he could not perform the sexual act unless by a strong imaginary effort he could persuade himself that he was experiencing this particular odor.

Cases of olfactory sexual excitation are of course common enough; but this case may have something uncommon about it in that the man was otherwise impotent; also the peculiarity of the olfactory excitation cause.

CONCLUSION

The physician must deal with disease, its cause and effect, and it is not part of his duties to moralize. This includes both physical and mental diseases. If the sexual function, which is perfectly natural and normal, is not exercised for any reason, sexual potency will be diminished and, according to Steinach, Voronoff, Sand and others, senility and loss of both physical and mental virility will follow because they are closely associated with sexual potency.

The economic and educational conditions of civilized society today and the barriers being set up against the exercise of normal functioning are becoming responsible for a large amount of immature sexual impotency. It may be stated almost as a rule that sexual impotency varies directly with the progress of mental development and civilization. Whether this is a biologic problem is a question which the future must answer. Certainly, impotence as well as other causes tend

toward the extinction of the fittest and to the survival of the "unfittest."

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DISORDERS OF URINATION*

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CHICAGO

The more common disorders of micturition arise from: 1. pathology or anomalies in one or more anatomic localizations of the genito-urinary tract; 2. result of general diseases; 3. from nervous causes of either organic or functional character. More particularly these may be grouped under three headings:

1. Disorders of urinary production.

2. Disorders due to obstruction of the conducting system, anywhere from the kidney to the outside.

3. Derangement of the expelling forces.

In the first group we are concerned with anuria or suppression of urine, a condition in which, for one cause or another, no urine reaches the bladder. This disorder must not be confused with retention of urine. Anuria is usually associated with a lesion of one or both kidneys and most often is due to one of the following causes:

Acute congestion of the kidneys.

Acute nephritis.

Terminal stage of chronic nephritis.

Abscess of the kidney.

Hydronephrosis, with or without calculus.

Poisoning—from lead, turpentine, cantharides, phosphorus.

Certain of the acute infectious diseases:

Typhoid.

Pernicious malaria.

Terminal stage of sunstroke.

Thrombosis of the renal vein—vena cava.

Oliguria. A diminution of urinary produc-

tion below the normal minimum. May be due to any of the above mentioned causes and also to

1. Passive congestion of the kidneys associated with cardiac decompensation.

2. Shock after anesthesia.

3. Depletion of fluids as a result of:

Prolonged emesis.

Diarrhea.

The last in this group of disorders of urinary production is *Polyuria*, or excessive production of urine up to 10 litres per diem.

Polyurias may be divided into two groups, those due to disease of the urinary organs or so-called moderate grades of polyuria and the more marked types due to metabolic dyscrasias.

Under the First Group. The following pathologic causes are usually etiologic:

Chronic nephritis.

Amyloid kidney.

Reflex congestion of the kidneys.

Pyelonephritis.

Tuberculosis of the kidney.

Arteriosclerotic kidney.

The extreme polyurias demand examination as to the presence of

Diabetes

Mellitus

Insipidus

Phosphaturia

Uricacidemia

any of which may occasion urinary excretion in excess of 5-6 litres.

Numerically, the greater number of abnormal urinary manifestations is due to one or the other cause of obstruction to the proper and normal exit of the urine from the kidney to outside of the body. To this group the term, the obstructive uropathies, is aptly applied; it may be divided into two main categories:

1. According to location and character of the obstruction.

2. According to the presence or absence of infection.

Pathology anywhere in the urinary or genital tract may produce obstruction, and the nature of the lesion at the site of obstruction may be variable. Pathology in the renal parenchyma itself causing obstructive symptoms is practically due to either renal tumor or tuberculosis, either of which may compromise, to a greater or lesser extent, the renal pelvis.

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Stone in the renal pelvis or ureter produces obstructive symptoms of all degrees from a moderate frequency of dysuria to total suppression of urine. These symptoms are further influenced by the presence of infection.

Simultaneous impaction of bilateral ureteral stone has been reported.

Tumor of the kidney pelvis and ureter is uncommon, but may result in obstructive symptoms.

Ureteral obstruction, including strictures and kinks, occur and may produce varying symptoms from a moderate degree of frequency and dysuria to complete suppression of urine.

1. Lesions of the bladder produce particularly symptoms of:

1. Retention.
2. Incontinence.
3. Retention with incontinence.
4. Painful and difficult urination.

The pathology most often present is:

- Stone.
- Tumor.
- Inflammation, including tuberculosis.
- Diverticulum.

The symptoms in any of the above instances depend to a marked degree upon the co-existence of infection.

Other causes are, that group interfering with the proper exit of urine through the bladder neck, more especially hypertrophy of the prostate, prostatic bars, and inflammatory contractions of the vesical neck. These lesions also account for symptoms varying from a mild degree of frequency and dysuria to complete retention, with paradoxical incontinence, which is merely the overflow of urine from an overdistended bladder.

Besides this group are those lesions outside of the bladder which by contiguity affect the normal exit of urine from the bladder, such as retention due to the enlarged uterus of pregnancy, lesions in the pouch of Douglas and pelvic and Retzius space abscesses.

Lesions of the urethra of an obstructive nature, more especially stricture, impacted stone, tumor and inflammations, are capable of producing profound changes in the act of urination and should not be overlooked in differential diagnosis in all cases coming under observation. Periurethral pathology may occasionally be causal.

The *third general group* is disorders due to derangement of the expelling forces, viz.: the

detrusor muscle. These derangements may be divided into those due to local causes and those due to lesions of the brain and spinal cord.

Lesions of the bladder interfering with its proper emptying are:

1. Cystitides of various types and grades.
2. Edema and teasing apart of the muscle fibres.
3. Infiltrating tumors.
4. Ulcers.

Nerve Lesions:

1. Cerebral origin—
Tumors—cysts.
Hemorrhage.
2. Cord:
Tabes.
Cerebrospinal lues.
Poliomyelitis.
Lateral sclerosis.
Syringomyelia.
Toxic sclerosis of pernicious anemia.
Gunma.
Tumors.
Spina bifida.

Obviously, for a proper and complete understanding of any of the symptom complexes which arise and may be very complicated, one should proceed with a painstaking history, a complete physical examination and necessary laboratory procedures in a routine manner, which is well understood by you all, and then with all available data at hand distinguish, if possible, which one of the particular disorders of functions predominates and attempt to find the underlying pathology occasioning it. Obviously, routine use of appropriate measures in urological study will elucidate the vast majority of the most complicated cases. It may at times be necessary to have the counsel of the neurologist and internist and this should be freely sought. Roentgenology is a most valued adjunct in the diagnosis, especially in conjunction with cystoscopy, ureteral catheterization and urography. The clinical laboratory should be called upon for complete urinalysis, bacteriologic examinations and the estimations of blood chemistry and hematological studies. When a diagnosis is conclusively determined, appropriate therapy then suggests itself, and in certain cases should be very promptly instituted. I refer particularly to those cases of anuria, and those of retention with infection.

THE EDUCATION AND TRAINING OF A NURSE*

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CHICAGO

Aesop has written: "A lion may be beholden to a mouse." If I tonight may play the part of the mouse and bring a message to you which may impress a truth or two, or strengthen a conviction, or act as a guide-post in the life-journey of someone, what more could any man wish than that? It would be a dereliction of duty, in such a case, not to accede to the invitation to deliver the graduating address to you; so I have accepted the honor so graciously offered to me by your Superintendent, and am here with you on this auspicious occasion.

Dr. J. Chalmers DaCosta, the famous surgeon of Philadelphia, in a notable address before the ex-resident physicians of the Philadelphia General Hospital, while speaking of the inmates of that great institution and dumping-ground for suffering humanity, adds this striking statement, which is applicable to most large hospitals of the country: "Here are some who seek health, and some who wish for death. Here come the physician, to heal and to teach, and the student, to observe and to learn. Here comes charity to relieve, and religion to console, and the foul blight of municipal politics to annoy, to hamper and to curse; and here, among some of the most unfortunate and some of the worst men living, comes woman, white-capped and cheerful, to comfort and to bless."

Within the life-span of most of those who are here tonight, against the dark background of the past, has dawned the happy day of the trained nurse in hospital and in home. This is a most desirable transition from the old-time period of the middle-aged practical nurse who was so often of the gross and illiterate type made famous by Dickens' Sairy Gamp, burdened with the superstitions and witchcraft of the Middle Ages—a monstrous type that the trained nurse of today has happily supplanted.

It has been no trifling task—the building up of a new system of nursing based on modern scientific principles. Naturally enough, mistakes have been made, as in every new venture, and errors have crept in that have from time to time

made their deleterious influence felt. We are living in a period of evolution in education in all of its manifold phases. The medical profession is going through the same modernizing influence, and mistakes have been made in the curricula of medical schools which today we are still endeavoring to remedy. We have not yet reached in medicine or in the development of the trained nurse the acme of perfection, the *sine qua non*, from which point there can be no advancement. Where there is no growth there must be stagnation, decay, death. Progression or regression: that is the inevitable law of nature in all lines of her activity. There is no ideal to which we may attain; there is an ideal toward which we may press ever and ever onward, but probably never reach. Perfection in one's profession or calling is like perfection in nature or in religion; it is unattainable, ever receding, but like the *ignis fatuus*, ever coaxing onward. This is the secret of the unrest that leads to growth and progress.

And so, in the development of a trained nurse there are some questions upon which there is not a unanimity of opinion. These have resulted in differences in the courses of training, both as to the subjects taught and the time devoted to the period of training. One by one these questions will reach a correct solution, for we know many trained minds are thinking of them, and there is wisdom in a multitude of counsellors. In this short address I will briefly touch upon one or two of these mooted questions.

"Someone has defined the functions of a nurse as follows: 'To care for the bodily needs of the patient; to carry out the physician's orders; to keep a careful record of the happenings of the sickroom as regards the vital phenomena of the patient.' Everything that the nurse needs to do or know may be grouped under one or another of these functions, and any teaching that contemplates anything beyond this would merely burden the nurse with useless theory or inspire her with the erroneous and fatal idea that she is endowed with the knowledge and skill of the medical attendant."

So writes a distinguished surgeon of one of the large cities of this country.

If this is all that will be expected or required of her is it necessary for any woman endowed with the average gifts of brain and common sense to spend three or four years in acquiring a

*An address delivered to the graduating class of nurses, Post-Graduate Hospital of Chicago, September 18, 1929.

nurse's diploma? Is there not an unnecessary loss of time and energy in the preparation of these girls for their life-work, a confounding of the ideas of education and training? Their schools are properly termed "training schools"; they are never designated as "colleges." Their object is to graduate good nurses, not poor doctors. The fundamental object of the trained nurse is to serve as the skillful attendant to the physician or surgeon in the sick-room or operating hall. She is not in any sense to be regarded as his assistant. The interne or colleague fills this place.

Judging from the definition as given by the surgeon I have quoted, a nurse may be over-educated; she can never be overtrained. Just as absurd would it be to state that a surgeon is over-skilled or a physician over expert in his methods of diagnosis. The more training and practical experience a nurse can acquire, the better for her and her patients. But this does not mean the burdening of her brain with medical and surgical facts entirely irrelevant to her vocational duties at the bedside or in the operating-room. All such study, aside from the broadening effect *any* line of education may entail, is useless in as far as the efficiency of the nurse is concerned.

This, I believe, may be regarded as axiomatic—that good nursing is not facilitated by too elaborate an education in professional subjects; rather is it hampered or even rendered useless thereby.

A superficial knowledge of physiology and anatomy, a fairly good idea of the meaning of the symptoms that may develop during the course of a disease or of a post-operative convalescence, together with a pretty thorough acquaintance with hygiene, will generally answer every purpose. It is just as well that the nurse should know that the femur has nothing to do with the arm, and that a fracture means a break in continuity and a dislocation does not, but it is surely beyond her province to expect her to set a broken limb or reduce a dislocation.

Every nurse should know that there are certain disease-bearing or disease-producing germs, and that these may be, and generally are, transmitted to patients by foul surroundings or by unclean hands and instruments; but, as I see it, it is not essential for her to trace the life-his-

tory of a bacillus and to enumerate the pyogenic germs; nor will it aid her nursing in the slightest degree to know that the *Bacillus brementis febris gastrica* will produce symptoms closely resembling those of typhoid fever, but in which the Widal reaction can not be obtained.

A fair knowledge of pharmacy, however, together with the ability to quickly and accurately make percentage solutions, is an excellent adjunct to the ability to record faithfully a temperature, a pulse-rate and a pulse-respiration ratio. If, in addition, a course of instruction is engrafted upon a fair general education, and this is backed up by a heap of good common sense and an excellent power of observation, so that sudden, or progressive, changes in the patient's condition for the better or for the worse will be promptly noted, then may we expect to find a capable nurse—provided she has the nursing instinct which is so important. For remember this—a good nurse is born, not made, to a large degree.

Again, there should not be any irregularity in the prescribed course of training in a given institution; and as nearly as possible there should be a uniformity in the curricula of the various training schools of the country; that is, I believe there should be a general system adopted by these schools, as far as may be practicable, even as there is by the various medical colleges. Likewise, in the course of instruction prescribed by the training school there should be observed a proper relative proportion in the branches of study. Not all are of equal value. Surgical work, attractive as it is, should not pre-empt to itself the bulk of time, as so frequently it does. More useful by far to the average nurse is the medical course; and no training should be considered as complete without a course in children's diseases, and some months of maternity work.

Above all, there should be a scrupulous avoidance of the flagrant irregularities in the individual school-course which have now and then been noted, whereby one favorite nurse profits by an excess of bedside or out-patient instruction, and another draws in the lottery of favoritism a special course as clinic nurse; while a third bears the brunt of official disfavor and rounds out her career as hospital drudge—which means a comprehensive instruction in the arts of scrub-

bing, washing and the other ordinary kitchen duties, tasks she will probably never be called upon to perform after her graduation.

Each nurse entering a training-school should have the assurance that she is to profit in every respect according to the facilities offered by the given institution. Religious creed, nationality and the personal equation bear no relationship whatever to the course of instruction. An impartial administration is to be expected. This is the just right of the student body.

There is a qualifying factor, however, which may, and probably should, partially modify the course of instruction for the individual probationer. Not every medical student is cut out by nature to become a surgeon. No matter how prolonged or thorough his course of instruction may be in this subject, he still will not develop into a surgeon. So, it will not be possible to train every girl to become a good obstetrical nurse, or a good surgical nurse, or an excellent assistant for the operating-room. She is not equipped by nature for this class of work. These inherent qualifying points of the individual must be recognized by the superintendent of the nursing school.

Much valuable time may thus be saved by giving these girls the fundamentals only, and then enlarging upon the qualifications for which they are best adapted by nature. This does not mean unfair discrimination, but is one of the qualifications whereby a good superintendent of nursing is recognized. It means fair play and justice both to the girl herself and to the institution in which she is acquiring her education and training. It does not mean irregularity in the course of training for the individuals of the class, but a selective judgment in dealing with the girls in order to obtain the best ultimate results.

You will notice that I have this evening been referring to the ideal conditions for the training of a nurse? Carrying on the picture, what are the characteristics of the ideal nurse?

In the first place, she is physically fit; for her life is a strenuous one and the strain upon her nervous and physical forces exacting. A healthy body and mind, *mens sana in corpore sano*, must, therefore, be a fundamental requisite for a successful avocational career.

Then, too, she is eminently sympathetic and

womanly, not coarse and unattractive. Her sympathetic nature, however, is tempered with judgment and firmness. She cultivates such gentle and feminine traits as will contribute to the comfort and peace of mind of the patient and the family. She cheerfully accommodates herself to circumstances as she finds them, and zealously refrains from measures and methods calculated to antagonize and estrange those with whom she must be intimately thrown.

She does not limit her knowledge and education strictly to professional branches. While excelling in these, she embellishes them by reading and study of other subjects whereby her conversation becomes attractive and interesting. For, be it remembered, most patients during the period of convalescence require not professional care alone, but diversion and mental relaxation as well, which can only be had by cheerful conversation and wise choice of literary refreshment. A broadly educated nurse can do much good in this way in hastening the physical and mental recuperation of her patient.

Again, like the ideal physician, the ideal nurse observes all the amenities that pertain to life. She is courteous and affable, careful to follow the requirements of polite society, and attentive to the professional aspect of these matters as well. She is refined and judicious in her speech. She does not refer to the horrors of operations or the unpleasant features of medical and surgical cases, which would tend to depress the mental condition of the invalid. From all such she sedulously abstains. The code of ethics as observed by ethical physicians plays a prominent rôle in her professional career also. It pertains as much to her as it does to the physician, means as much, is as much a part of her life as it is of his. She is guided by its dictates, and conducts all her professional acts in accordance with its high precepts.

Laying aside all personal likes and dislikes, she is loyal to the medical man who may happen to be in attendance upon the patient she is nursing. She may not like him personally; she may honestly think some other physician better suited to the case; but, for the time being, to her he is the only medical man in the world. She carefully carries out his orders and loyally assumes his place in his absence. Neither by word nor innuendo does she compare him with

other medical men in the presence of the patient or the family; nor does she mention and extol to them the virtues and medical or surgical skill of other men. If uncertain as to a proper course to pursue, she consults with the doctor in private and learns his wishes, and these she carries out to the best of her ability. His is the responsibility as to the outcome of the case; hers is the duty and pleasure of helping him to obtain a favorable result. Thus, she wins his confidence and respect and, incidentally, the affection and confidence of the patient.

Finally, she is loyal to the patient and the family with which for the time being her lot is cast. It is as much her interest as the doctor's to obtain a successful termination to the case. Therefore, she does all in her power to promote the comfort and welfare of the sick one, by cheerfulness of demeanor, by quiet gentleness and patience during the trials of the illness, and by brightness of conversation during the convalescence. She never betrays a confidence that may be imparted to her by the patient or members of the family. She never speaks of the personal side of one case to subsequent patients she may attend.

In other words, the ideal nurse adheres closely to the spirit, as well as the formula, of the pledge which, hypothetically, she takes. Let me read you a pledge, which has been recommended by a large eastern hospital and which, I believe, might well be generally adopted:

"After deliberation and with full knowledge of the import, I do, in this assemblage, subscribe to the following Code for Nursing Service:

"When I offer my services to the sick I will do so without reservation as to either personal comfort or consideration, in face of duty.

"I intend to follow the ethical teachings and maintain the principles of professional and personal integrity, of which my uniform is indicative.

"It will be my especial concern to avoid thoughtless words which might cause me to bear false witness against my neighbor.

"I will strive to keep strong the foundations of my character and unceasingly show my faith in God."

Do you so subscribe?

Young ladies of the graduating class, what shall I say to you who are about to take your

place in the battle of life? Tonight the world is yours; tomorrow it will be yours to conquer. Do not think the roses will bloom without intermission and the sun forever shine. There are character-lines to be drawn, obstacles to be overcome, battles to be fought, mountains to climb. There is much to be done in order to bring your vocation to maturity and perfection. You are to have a share in this work, so do your allotted task well. Build that portion of the structure which lies before you. Never mind how your neighbor in the profession is employed—that belongs to her. Let your goal be "Perfection"—for you. If you do not achieve that, at least you will be aiming toward it, and that means much. The Italians have a proverb which says: "No wind can do him good who steers for no port." You know your destination; let nothing swerve you from it. Be true to yourself and to your high purpose in life, and the future will be true to you. There is no reward commensurate with an approving conscience; so, if you with determination press toward the mark, though you fall by the way you cannot suffer defeat, for your face will be to the front. Then will your conscience and all the innumerable throng of witnesses shout the pæan of victory, "Well done, good and faithful servant."

ACUTE INTESTINAL OBSTRUCTION

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Intestinal obstruction with its high mortality has been one of the outstanding problems of surgery for generations. Within the last 10 or 15 years the work of Hartwell and Hognuet,¹ McCallum,² Dragstedt,³ Haden and Orr,⁴ McVicar,⁵ Foster and Hausler,⁶ Gatch, Trussler and Ayres,⁷ McIver and Gamble⁸ has done much to clear up our understanding of the accompanying toxemia and lower the mortality. A recapitulation of the known facts about this condition at the present time with their application and a word of warning about proper perspective and use of surgical judgment will be the purpose of this paper.

My attention was first called to the newer work on the toxemia of intestinal obstruction by the reports of L. R. Dragstedt³ in 1916. He and his co-workers concluded that death was due

to absorption of a toxin resulting from the action of putrefactive bacteria on necrotic tissue. Their work is along the same line as that of numerous other investigators in the last two decades. In reading the literature one is confronted with a confusion of apparent facts and conclusions reached by different workers up until the last 2 or 3 years. As opinions become crystallized and confirmation occurs by different laboratories a co-ordination of the whole is finally taking place.

Certain facts are now fairly well established.

1. There are two types of obstruction: a. Simple occlusion. b. Strangulation.

2. Profound changes occur in the ionic constituents of the body fluids.

3. Obstruction is further subdivided in high obstruction involving the small bowel and low obstruction involving the large bowel.

4. A toxemia is present in strangulation the exact nature of which has not yet been determined.

1. Hartwell, Hogue and Beekman¹ in 1912 first clearly stated after experimental study the two factors at work. Subsequent investigators submerged these two important points. To quote, "There are two factors at work producing the symptoms and causing death in this condition.

"First, the loss of water from the tissues due to excessive drain into the bowel in response to the irritation set up by the retained secretions. This water may be replaced by subcutaneous injection of normal saline solution, and the symptoms caused are thus entirely controlled."

Here we have the condition present in simple obstruction. Continuing, "Second, the entrance into the circulation of poisonous materials, which occurs only when the mucosa of the bowel is damaged. This damage results largely from trauma inflicted by the over-distention acting on the circulation, but possibly also by the chemical action of the digestive ferments stagnated above the obstruction. Such damage having resulted, there occurs a bacterial invasion into the bowel wall with death of tissue cells (which is invariably demonstrated by microscopic examination) and in this process the poisonous substances are elaborated. The action of these poisons is apparently not influenced by the administration of saline subcutaneously."

"The absorption of a poison from any source

whatever is not a factor, so long as the mucosa remains intact."

These words might easily be taken as a quotation from an article appearing in 1929 for they express, before the period when blood chemistry was utilized, exactly what we feel today. This leads us to a discussion of the second type of obstruction, i. e., strangulation where there is in addition to occlusion stasis in the intestinal wall due to distension or actual anatomical interference with the blood supply. Dragstedt, Moorehead and Bureky³ in 1917 further elaborated this point proving that production of the toxin depended on bacterial activity in the intestine but absorption depended on the presence of necrosis in the wall caused by circulatory stasis plus bacterial activity. Hogue and Hartwell had anticipated our present concept then by differentiating simple obstruction without toxemia but with great dehydration due to loss of fluid and strangulation where toxemia invariably occurs. Dragstedt et al formulated a theory of toxemia due to wall necrosis and absorption of toxins resulting from bacterial activity which holds to the present. The important point is to clearly differentiate production of the toxin from its absorption. In simple obstruction we have loss of digestive secretions from excessive vomiting with dehydration and as we shall see later marked change in the organic constituents of the blood. These factors may be lethal in themselves. Undoubtedly bacterial content in the preoccluded bowel produces toxins the same as in strangulation but no absorption takes place. In strangulation the bowel wall is permeable to these toxins and we have a combination of dehydration, loss of electrolytes with in addition a toxemia which is invariably lethal if an adequate dose is absorbed.

Clinically, perhaps, fewer than 20 per cent. of obstruction cases remain simple. Gatch, Trussler and Ayres⁷ have shown diagrammatically how gaseous distention resulting from bacterial activity soon leads to discoloration of the wall superposing a circulatory disturbance with accompanying toxemia on a simple obstruction.

2. *Profound changes occur in the ionic constituents of the body fluids.* As one approaches this point we enter a phase concerning which much experimental work has been done. Much controversy and conflicting views have been stated which, however, bearing in mind an accu-

rate conception of the two types simple occlusion and strangulation, while at first impression conflicting, can be co-ordinated. To McCallum² goes the credit for first calling attention to the chloride changes in high obstruction. He showed that in cases of pyloric obstruction due to excessive vomiting with loss of H Cl secreted by the stomach there occurred a rapid loss of plasma chlorides with production of gastric tetany when these fell below a certain point. Tetany could be cured or prevented by injection of adequate amounts of sodium chloride solution. Similar symptoms may occur in other high obstruction. Haden and Orr in a large series of communications have developed and extended the leads given by Hoguet and Hartwell in the therapeutic use of normal saline and the observations of McCallum and described a fairly characteristic blood picture occurring in high obstruction. This consists of a fall in blood chlorides, rise in non-protein nitrogen and rise in CO_2 combining power or an alkalosis. They were able to prolong the lives of dogs with simple obstruction to 25 or 28 days by injections of NaCl solution and formulated the doctrine that NaCl exerted a protective or detoxifying action on the toxins, hence being removed from the circulation and falling in the blood. This would suppose the presence of a toxemia in simple obstruction which, as we have mentioned, in later work was proved only to be present in strangulation. In a recent communication they have abandoned this theory and agree with other workers, i. e., Foster and Hausler,⁶ Wagenstein and Chunn,⁹ Gatch, Trussler and Ayres,⁷ McIver,⁵ that the blood changes are due to simple loss of body fluids. The work of Foster and Hausler and recently an article published by McIver have done much to clarify the situation in regard to the blood picture.

Foster has shown the non-protein nitrogen bears no constant quantitative relationship to the Cl_2 but is due to lackened kidney secretion from dehydration. Also that the chlorides lost are proportional to that lost in the vomitus, urine and bowel evacuations or retained in increased secretions stagnant in the intestinal tract. McIver has further elucidated an important fact in the inter-relationship between the points at which secretions arise. According to McIver, the primary feature is a loss of the ionic content of the plasma, chiefly fixed base and

chlorides, upsetting the ionic equilibrium due to lack of reabsorption. An approximately parallel loss of water occurs with resulting dehydration in the effort of nature to maintain the ionic balance as near normal as possible. A relative increase of bicarbonate ion occurs as a compensatory phenomenon with resulting alkalosis. The alkalosis is varying in degree, however, depending on the amount and source of digestive secretions lost as shown clearly by their diagrams. Excessive loss of pancreatic secretion with its low chloride and high bicarbonate content may even produce an acidosis as they have experimentally determined by means of pancreatic fistula. McIver, therefore, regards the dehydration as a result of interference with ionic balance but attributes death to dehydration with its accompanying lack of tissue respiration and defective transportation of nutrient and waste material.

3. *Simple high obstruction or obstruction in the small intestine is differentiated from low obstruction.* In the former reabsorption does not occur, hence all the blood changes mentioned take place. In simple low obstruction without circulatory change the patient may live for prolonged intervals because salt and water are reabsorbed in the large bowel and the blood changes do not take place.

4. *A combination of toxemia and shock is present in strangulation the exact nature of which has not yet been determined.* The confusion in results in much of the early work on intestinal obstructions was due to failure to clearly differentiate the underlying pathology. A patient seen after one week of vomiting, cramps in the abdomen and obstipation was in fairly good condition; pulse 80, temperature 99.6, respiration normal, mental state clear. Obstruction was found to be due to simple blockage of the ileum by a large gall stone. Another patient after 12 hours duration of symptoms was found pale, cold, clammy, pulse 140, B. P. subnormal. The cause was a mesenteric thrombosis. We have here two extremes of the condition. The first patient has no toxemia, simply lowered chlorides and dehydration. The second is suffering with intense toxemia and shock due to sudden interference with the circulation of the intestine over considerable length, rapid multiplication of bacteria and absorption of toxins through the wall of the area of disturbed circulation. In between

we may have a combination of these factors of strangulation and simple obstruction depending on the type of lesion and length of time elapsed.

Experimentally, those dogs prepared by the closed loop method dying within 3 or 4 days in spite of parenteral administration of salt solution were found to have a distended lumen with areas of discoloration due to beginning gangrene. The dogs that could be kept alive with a simple obstruction through the period of starvation after carrying them over the preliminary 4 or 5 days when the operative trauma to the intestinal lumen subsided showed no necrosis of the bowel. The conclusion finally reached after much work and discussion is that bacterial activity in the obstructed lumen leads to production of a histamine like decomposition product which is highly toxic to the normal organism. This is the factor of production. Absorption, the second factor, depends on circulatory change in the wall which makes it permeable. On this may be and is superimposed loss of chlorides and water due to vomiting the excess intestinal secretions of simple obstruction. There occurs an upsetting of the ionic balance with rise in non-protein nitrogen due to lackened kidney secretion from dehydration or increase in urea from retention as a protective mechanism on the part of nature to maintain the acid base balance. So far no antidote for the toxemia is known. Administration of salt and water cannot stop the toxemia as Haden and Orr now admit. If a lethal dose once occurs death is inevitable.

Clinical Application. Aside from the pathological classification the obstructions may be considered in two groups. First, postoperative obstruction coming on in the first few days or week after operation. Secondly, miscellaneous types due to various causes such as volvulus, intussusception, hernias, gall stones, tumors. This includes, also, the frequent type due to adhesions and bands coming on from a few weeks to years after an abdominal operation. It seems to us such a division is important in early recognition and treatment.

Obstruction in the first few days following operation is one of the things the surgeon must constantly be on the alert for. The classical symptoms of vomiting, audible or visible peristalsis, cramps, obstipation are almost never all present. More often there is continued vomiting of small amounts of thin greenish or brownish

fluid with a disagreeable odor but not extremely foul or fecal by any means. An acute dilatation is thought of but on passing the tube no huge quantity returns and vomiting continues in spite of repeated washings. In our experience, at least, pain or cramps are rare in these early postoperative cases. The bowel is already paralytic from operative manipulation and simply a gradually increasing distension occurs. On auscultation the belly is quiet in contrast to other types of obstruction. Stupes, pituitrin and repeated enemas have no results in relieving the distension as in the ordinary case of postoperative ileus. This picture cannot be too strongly emphasized. If unrelieved, distension and vomiting continue with mounting pulse, leaky skin and toxemia as circulatory change take place in the bowel wall from distension. Blood chemistry shows the decreased chlorides, increased non-protein nitrogen and alkalosis Haden and Orr mention.

The late obstruction coming on from a few weeks to years after an abdominal operation begins with acute almost agonizing intermittent abdominal cramps. Vomiting soon occurs, first the contents of the stomach, then biliary material. There is obstipation and distension varying in extent according to the height of the obstruction. On examining the abdomen with the stethoscope increased peristalsis is heard, tinkling or bell-like in character, once heard readily recognized. The temperature is usually not elevated and the pulse is strong and not much increased in rate. Study of the blood shows a leucocytosis quite high, usually 18,000 to 20,000, with an increase of polymorphonuclears out of proportion to the white count. This type of obstruction hits an individual in good health or normal strength with a bowel wall capable of vigorous peristalsis, so paroxysmal crampy pain is an outstanding feature in contrast to the early postoperative obstruction.

Treatment. In approaching this phase we deal with the most important part of the subject. So much has been said recently about blood chloride, non-protein nitrogen and carbon dioxide combining power that we are apt to lose sight of the most important thing of all—accurate clinical observation of all postoperative cases with prompt intervention in suspected cases. It is my earnest conviction, as White¹⁰ has recently emphasized, that the mortality depends just as

much on early surgical relief as before the widespread knowledge of Haden and Orr's valuable contributions. Too much time should not be lost in a study of blood chemistry when the patient needs an operation. There is a natural aversion to reoperation 2 or 3 days after a serious procedure but when the condition becomes such that relief is demanded or obviously necessary, it is too late.

Once the diagnosis is made intervention is necessary. The type of procedure depends somewhat on the individual case. In general I am not enthusiastic over enterostomy alone. True, the procedure is simple, can be done under local anesthesia and closes up promptly, but the patient often dies. If our theory is correct and most obstructions are attended with interference in the circulation or if not in the beginning are later, removal of the cause, cutting bands, releasing multiple kinks if necessary followed by enterostomy, of course, as a relief for distension and instillation of fluids, is the procedure of choice. Added to this frequent postoperative lavage by an indwelling Ledel tube as accumulation occurs is important in withdrawing the toxic products. As Gatch, Trussler & Ayres have pointed out, in the presence of gangrene no extensive resection and anastomosis should be attempted as these will nearly always let go leading to leakage and peritonitis but, if necessary to resect, a gun barrel enterostomy should be done and anastomosis later when the patient has recovered from the toxemia. C. Jeff Miller¹¹ in a recent analysis of 343 cases of intestinal obstruction agrees with Sir William Taylor¹² in dividing the cases into three classes. In the first group, seen early, the patient is in good condition and simple relief of the obstruction with usual preoperative and postoperative care is all that is necessary. In the second group, seen later, the condition is fair but toxemia has already become a factor and bowel drainage is instituted in *addition* to relief of the obstruction. And lastly, a third group seen late the condition is poor, toxemia is as important as the primary obstruction and only drainage of the bowel by enterostomy is warranted. The obstruction is taken care of later if the patient lives, as he usually does not.

We have left till last the important medical management of the case. Dehydration, hypochloremia, alkalosis and toxemia may still cause death of the patient. 1000 c.c. of 5% glucose

in normal saline should be given subcutaneously when preparing for operation and administered as fast as absorbed to the amount of 5 or 6 liters daily. Blood chloride is determined by the laboratory and if lowered, 500 c.c. of freshly prepared 10% glucose in 3% NaCl solution given intravenously twice daily. 5% glucose in normal saline is given per rectum and may be injected hourly in the enterostomy tube. Haden and Orr recommend 2 grams of NaCl per kilogram of body weight as the dosage the first 24 hours and this may be gotten in quite readily by combining the above methods of absorption. The first effect, if an overwhelming dose of toxin has not occurred is increase in urinary output, slowing of the pulse, decrease in sweating and brightening of the aspect. Once a sufficient dose of unknown toxin has been absorbed treatment is of no avail and death is a matter of hours.

Summary. Obstruction is of two types, simple obstruction with occlusion of the intestinal lumen, and strangulation with interference in the blood supply. In the first type there is great loss of digestive secretions leading to disturbance of the ionic balance and accompanying loss of fluids and electrolyte. In strangulation a toxemia is superimposed thereon. The aim of our treatment is by a better understanding of these processes and use of proper clinical judgment to stop their progress before a lethal dose of toxin has been absorbed. Salt solution is not an antidote for the toxemia but restores proper ionic and fluid balance. Early operative intervention combined with enterostomy and large quantities of salt solution and glucose combined with continuous drainage of the gastric secretions, offers the best prognosis.

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THE TREATMENT OF SQUINT IN CHILDREN*

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The treatment of non-paralytic convergent squint in children is a difficult problem since our knowledge of its actual cause is often quite meager. While there are many cases of convergent squint which are due to obvious causes, such as unilateral amblyopia produced by corneal, lens or fundus pathology, there are many more in which both eyes are apparently healthy and yet a squint exists. This latter type is the result of an innervation defect and is the condition with which the present discussion is concerned.

One of the most discouraging features in the treatment of squint is the evident lack of interest taken by the profession in educating the general public to realize that these children should be placed in the hands of a competent oculist as soon as the squint is first noticed. There is no doubt that our results are better in those cases which come to early treatment. It does not seem to be common knowledge that most chil-

dren with untreated squint rapidly lose useful vision in one eye. After the squint is fully established the vision in the squinting eye soon becomes poor and it is difficult to build up the visual acuity again. In neglected cases there are two problems which eventually must be faced by those with a squint. The first problem is social and comes as a result of personal appearance; the second is economic and is the result of difficulty in obtaining employment since the risk of accident is greater in those having but one useful eye. We must impress upon the members of the medical profession and they in turn upon the general public the absolute necessity for the early treatment of these cases.

Before the rational treatment of strabismus may be undertaken the case must be thoroughly studied. A complete history of the onset and progress of the defect must be obtained from the parents. If a squint has been constantly present since birth it is probably of the paralytic type and treatment other than surgery is of no avail. One must not forget that infants under the age of six months normally present disjunctive movements of the eyes; i. e., one eye may wander in almost any direction and the opposite eye in another. In the usual functional type of squint the excessive convergence first appears between the ages of six months and three years. The deviation of the eyes from parallelism is present only occasionally in the early stages but gradually goes on until the eye deviate constantly. It is in the early intermittent stage that treatment is most satisfactory.

Following the history a thorough examination of the cornea, lens and fundus is necessary in order that pathologic processes in these structures may be ruled out. If the child is unable to see with one eye there is no stimulus to binocular single vision and it will be impossible to obtain parallelism of the two eyes except by operative interference.

The ability of the child to fix with the macula of the deviating eye is determined by covering the good eye and causing the poor eye to follow a small electric lamp or candle. If fixation is not accurate it is significant of poor vision. One must be sure that the child's attention does not lag during the determination of this function. If fixation in the squinting eye is eccentric or absent it is necessary to build up

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the vision before any result may be expected from treatment.

Next the ocular rotations are determined. In infants an idea of the rotations may be had by holding the child's head and moving a light in different directions while the eyes follow the light. In abduction the cornea should reach the lateral canthus and in adduction about one-third of the cornea should lie medial to a line connecting the two lacrimal puncta.

An attempt must be made to determine the visual acuity. With very small children this may be done roughly by the use of pieces of money or other small objects thrown onto the floor. Each eye is to be tested separately. In older children the visual charts with pictures are available.

The type and degree of deviation are important. If the child fixes with either eye and the squint is a true alternating one only an operation will be successful. If one eye habitually squints and the other fixes and if the degree of convergence is greater for near than for distance the squint is more likely to be of the accommodative type and often responds to the usual course of non-surgical treatment.

Determination of the error of refraction is extremely important and must be estimated by skiascopy after thorough cycloplegia. Atropine ($\frac{1}{2}$ —1%) is employed in all cases over a period of from four to six days. Even an infant may be skiascoped if one is persistent and is careful not to frighten the child. If possible the use of cylinders is advisable since in this way the astigmatic error is more accurately estimated.

In older children, i. e., those of three to five years of age, Worth advises the determination of the degree of fusion with the stereoscope or amblyoscope. This may not be done unless the vision is fairly good in the poor eye.

The first step in the treatment of functional convergent squint is the full correction of the existing hyperopia and astigmatism. Also any vertical deviation of the eyes is to be corrected with a prism ground into the correcting lenses. This type of squint often begins as a convergence excess which is associated with accommodative overaction. The excess accommodation is necessary in order that the child may form clear images on the retina. The third cranial nerve nucleus supposedly supplies both accommoda-

tion and convergence and overstimulation of one function is apparently associated with overstimulation of the other. In order that the excessive convergence stimulus may be reduced, the child's need for excess accommodation is removed by the constant wearing of a glass which fully corrects the error of refraction. In addition to this, one may remove still further the necessity for accommodation by the use of bifocals with a +1.50 to +3.00 add over each eye. Often the convergent squint is associated with a less pronounced vertical deviation and a correcting prism for the vertical error ground into the glasses enhances the value of the lenses as a means of reducing the squint. Any glasses which are prescribed must be worn during all waking hours. The refraction should be repeated every six to twelve months during the first few years. It may be stated here that glasses are well borne in young children, even by an infant of six months of age. The youngest child does not complain of glasses but, on the contrary, becomes fretful if they are left off. It is usually best to construct a head harness for holding in place the glasses of very young children.

It is now necessary to build up the vision in the squinting eye. Prolonged occlusion of the fixing eye is the best method of treatment. In addition to the glasses a pad is worn over the good eye for a period of one month, thus compelling the poor eye to do all the work, and the visual acuity is again determined if possible. Unless vision is normal the pad is re-applied and worn for another month. During all this time the child is compelled to use the poor eye and if it is possible to build up the vision it will be accomplished within a period of six or eight weeks. The vision in the original fixing eye may deteriorate somewhat but will be restored quickly after removing the patch. Neither the use of atropine nor the application of the bandage for a few hours each day is as efficient as constant prolonged occlusion.

Following corrections of the refractive error and restitution of vision in the squinting eye one is ready to begin fusion training. According to Worth the fusion sense is undeveloped in squinting children. I must confess that in my use of the stereoscope and amblyoscope it is in only a small percentage of cases that I have been able to satisfy myself that any great good comes from

such exercises; however, others seem to believe the results good and I shall keep on trying. In very young children such exercises are impossible; it is only in those of three to five years of age that one may hope to accomplish anything. The child's interest must be kept up by constantly changing the pictures. Recently Maddox has introduced a new stereoscopic instrument, the cheiroscope, with which the child employs the squinting eye and corresponding hand to draw or control objects which are seen with the habitually fixing eye. Fusion training must be continued over a prolonged period of time if one is to obtain fusion—even then only a small number of patients are able to fuse properly.

During the entire course of treatment the child should be kept in good general health and encouraged to stay out of doors as much as possible. Very little close work is permissible.

If the treatment of squint is begun in its early stages and persistently carried out over a period of time many children will have good vision in both eyes, many will have parallelism of the axes while wearing glasses and a few will develop fusion. However, there are many others in whom the result is poor and the eyes may be made parallel only by resorting to operative procedure. It must be remembered that operation produces only a cosmetic result and has no effect on restoration of vision.

There is a great difference of opinion among oculists as to the proper time to make an operation for convergent strabismus. My impression is that one should not resort to operative intervention too early—following early operation a convergent squint may be converted into a divergent one later on in life, even though the eyes were straight immediately following the surgical treatment. The normal growth of the globes and orbits tends to lessen a convergent strabismus. If one operates on young children I feel that only advancement should be performed and that one should be satisfied with an undercorrection until after the age of puberty. A second operation may then be made if necessary.

Neglected cases of squint must be corrected surgically and only a cosmetic result may be expected. Prior to operation the motility of each eye should be tested since there may be some secondary contracture of the ocular muscles. The

ability to abduct and adduct each eye has a bearing on the choice of operation.

While many European surgeons prefer tenotomy and feel that they obtain good results with it, there is much to be said against free and uncontrolled severance of the ocular muscles. Personally I feel that uncontrolled tenotomy is rarely indicated. It is just these eyes which may later show a divergence. If it is necessary to correct an overacting muscle or one showing secondary contracture the recession operation advocated by Jameson is a safe and sane procedure.

In convergent squint of low degree (15 degrees or less) one should do a recession of the medial rectus if adduction is increased. If abduction is decreased the choice lies between advancement, resection or tucking of the lateral rectus. My preference is the resection according to Reese.

When the squint is moderate in amount (20 to 30 degrees) one may do a recession of the medial rectus and a resection of the lateral rectus.

In high errors (35 to 50 degrees) it is best to make a tenotomy of the medial rectus and follow with Worth's advancement of the lateral rectus. It is good policy to do a two-stage operation in moderate and high degrees of error; i. e., try to undercorrect slightly at the first operation and some time later make another operation on the opposite eye. In this way there is little danger of overcorrecting the squint.

SUMMARY

A thorough preliminary study of every case of convergent strabismus is necessary before treatment is instituted. This study should include a history of the onset and progress of the squint, examination of the media and fundus, determination of the ability of the squinting eye to fix, a study of the ocular rotations, determination of the visual acuity in each eye, measurement of the degree of deviation and an accurate determination of the refractive error.

Treatment should be instituted as soon as possible after the onset of squint. Glasses which fully correct both the refractive error and any vertical deviation should be prescribed and worn constantly. Often bifocals are of benefit since the addition of a stronger glass for near work lessens the accommodation-convergence stimulus.

If the vision in the squinting eye is subnormal the fixing eye is occluded over a period of one or two months in an attempt to improve vision. Fusion training is carried out over a period of two or three years in order to develop binocular single vision.

Cases which do not respond to the above outlined therapy and neglected cases are treated surgically. Only a cosmetic result is possible. The amount of squint and the power of adduction and abduction determine the type of operation. Uncontrolled tenotomy is not advisable. In low degrees of squint a Jameson recession or a Reese resection is advisable. In moderate squint the above two may be combined. When the deviation of the two eyes is over thirty degrees a Worth advancement combined with an anchored tenotomy gives the best result. In moderate and high errors a two-stage operation is safer since there is less tendency toward eventual divergence than there is following a single operation which at once corrects all the squint.

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THE SOURCES OF ENTRY OF PUERPERAL INFECTION: METHODS OF PREVENTION

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Bacteria causing infection in the maternal patient may already be in the patient or be introduced into the obstetric field from external sources. In accounting for infection, the latter is the source usually held responsible. The various parties who might have been causative of the tragedy are the patient, the doctor, the nurse or any other attendant at the delivery.

From within the patient may come sources as infected cut on the finger, ulcerated varicose veins, otitis media, diseases of the mouth, throat, nose, fissures of the nipple, abscess of the breast, appendicitis, cholecystitis, infection of the kidney, or more localized infection as valvitus, eczema, furunculosis, Bartholinitis, fissure in ano, hemorrhoids with ulceration, urethritis, cystitis, pyelitis, etc.

Introduction of bacteria caused by individuals other than the patient may come from coitus, manipulation, vaginal examinations, operative delivery, douches, especially in the home, baths, linen, clothing, or air. When such bacteria are

carried from one patient to another, the infection has a much higher mortality.

When death comes from infection careful search is made for some likely origin and if the bacteria have been introduced outside the hospital, a sigh of relief escapes in lifting the responsibility of the infection from the shoulders of the accoucheur. But has the obstetrician escaped the responsibility? When we are dealing with an obstetric patient, are we not dealing with a patient upon whom we are expecting to perform a major operation, through an infected field, and in whom there is expected one or more large, open wounds? If this is the case, have we really discharged our responsibility when infection arises in a patient who has been delivered aseptically? An aseptic delivery means that we have examined the patient for bacteria and found them absent. If they are not absent, and infection arises, how is it that an antiseptic solution was not applied to the field? Only an antiseptic delivery will give definite assurance that no bacteria are present. What does it matter how the bacteria came there? Does that satisfactorily explain the reason for doing an aseptic delivery? Does that excuse the obstetric surgeon from applying antiseptic solutions?

We are all aware of the extensive studies made by some of our most famous and most accurate investigators concerning the presence of bacteria in the vagina. We all know that the upper regions of the vagina are supposed to be sterile, through the bactericidal action of the vaginal secretions. We know that in the majority of women, the upper regions of the vagina are sterile. But some of these women have pathogenic bacteria in the vagina, and in 10-15 per cent. of parturient women, they gain entrance into the body, to make the patient suffer the possibility of death from infection, or invalidism after the torturing experience of fighting for her life against a terrible febrile disease. These things we know, yet we are satisfied to allow the infliction of large obstetric wounds without the protection of antiseptic preparation. This is against all good judgment and fair thinking.

We have at present three antiseptic solutions which are reasonably marketed and are suitable for application to the mucous membrane. They are non-injurious to the mucosa, non-toxic, and yet actively bactericidal. These are mercurochrome, hexylresorcinol and merthiolate. If ap-

plied at intervals of eight hours during labor, they will kill or vitiate the bacteria present in the birth canal.

It does not concern us how the bacteria gain entrance into the generative tract, the mere fact that they are there is sufficient to warrant the application of some drug to kill them. Granted that vaginal examinations, introduction of the bag, any form of operation or manipulation in the parturition will increase the presence of infection, and we must avoid these factors so far as possible, yet even if no such complications were to arise in obstetric care, there would still be a large number of infections and deaths from infection. We are expected to apply the knowledge of bacteria and antisepsis to obstetrical procedures as to surgical operations. Every delivery, operative or non-operative should have an antiseptic preparation.

The preparation of the obstetric patient is one which must come more in consideration if we are to drop the puerperal morbidity. In washing the perineum, no fluid should be allowed to pass into the vagina, as this will carry infections from the vulva, labia, vestibule, into the so-called sterile regions. After cleansing in such a way that this does not happen, the perineum is painted from the introitus outward with 10 per cent. mercurochrome. Then 5 c.c. of a glycerine solution of 5 per cent. mercurochrome 1 per cent. tr. iodine is introduced into the vaginal tract through a speculum, or via a syringe and massaged into the mucous membrane, to make certain of its application to the entire surface outside the cervix. This preparation in the vagina is repeated every eight-twelve hours, during labor. Special painting is again repeated at the time of delivery. Such preparation will reduce the morbidity at least 50 per cent.

It must be remembered that this process does not excuse or permit any increase in operative procedures as these will raise the possibilities of infection again.

The fact that any patient has febrile puerperium indicates that bacteria have gained entrance into the body. If this has happened through the parturient canal, we have no finer proof of the need for antisepsis in that region. When we are working through an infected field, it is indicated to work antiseptically not aseptically. Therefore, since we do not know which patient is free from pathogenic bacteria, regard-

less of its source of entry, we must apply vaginal sterilization in obstetrics.

Marriages

JUSTIN LIMBAUGH CONRAD, Chicago, to Miss Frances Cecyl Sorensen of Moline, Ill., June 26.

EMANUEL NEWMAN to Miss Babette Froehlich, both of Chicago, June 10.

Personals

The Christian County Medical Society was addressed, July 17, by Dr. Thomas O. Freeman, Mattoon, on "Acute Surgical Conditions of the Abdomen."

Edwin O. Jordan, Ph. D., professor of bacteriology, University of Chicago, has been elected a member of the board of scientific directors of the International Health Division of the Rockefeller Foundation.

Drs. Clark E. Baker, Marion, spoke on "The Chemistry of Metabolism," and William G. Parker, Mount Vernon, "Some Aspects of Allergy," before the Franklin County Medical Society, June 25.

Rossleene M. Hetler, Ph. D., will leave the University of Illinois faculty to join the staff of Washington University School of Medicine, St. Louis, to carry on research in ophthalmology.

It is reported that Richard Scammon, Ph. D., professor of anatomy at the University of Minnesota Medical School, has been appointed to the same chair at the University of Chicago.

The McHenry County Medical Society was addressed at Woodstock, June 13, by Dr. Harry M. Hedge, Chicago, on "Some Common Diseases of the Skin."

Prof. Lorenz Böhler, Vienna, Austria, who was a guest of the American Medical Association at the recent Detroit session, held a clinic at the Cook County Hospital, July 18, demonstrating his work of reduction of fractures under local anesthesia together with his method of the use of plaster casts.

Clarence W. Muehlberger, Ph. D., assistant professor of toxicology and pharmacology, Northwestern University Medical School, was

appointed coroner's chemist by Coroner Bunden, July 23, succeeding the late Dr. Ralph Waldo Webster.

Dr. Jerome R. Head has been appointed associate in surgery at Northwestern University Medical School. Dr. Head has been a member of the surgical staff of the University of Illinois and was formerly connected with the Wisconsin General Hospital.

Dr. Victor H. DeSomaskeoy, who has been in charge of the Morgan County Department of Public Health and the tuberculosis sanatorium, Jacksonville, is said to have tendered his resignation. Before coming to Jacksonville, Dr. DeSomaskeoy was for seven years deputy health officer of Maryland.

Miss Jean McArthur, Secretary of the Educational Committee, has been appointed on the Board of the Illinois Women's Press Association and has been elected editor of *Pen Points*, the official publication and magazine of that organization.

Dr. Leon J. Goodman, Chicago, has resumed practice after spending six months in the clinics of Professor Frankl and Professor Temesvary in Budapest. His practice is limited to obstetrics and diseases of women.

News Notes

—The General Education Board has appropriated to the University of Chicago \$1,000,000 toward \$2,000,000 needed for the construction, equipment, endowment and upkeep of two buildings, one for the department of hygiene and bacteriology and one for the department of anatomy.

—Circuit Judge Charles E. Briggles, Springfield, declined, June 27, to intervene in the decision of the state department of registration and education and the department's medical committee which had refused to grant recognition to the Illinois College of Physicians and Surgeons, Chicago.

—A committee to aid in the survey of Illinois hospitals for the mentally diseased was named by Dr. James H. Hutton, president of the Chicago Medical Society. The personnel is as follows: Drs. Ralph C. Hamill, Robert S. Berghoff, John A. Wolfer, H. Douglas Singer, Peter Basoe and George W. Hall. The committee will

cooperate with Governor Emmerson in a plan for improvement of the state psychiatric institutions, it is reported.

—The Hancock County Medical Society held its July 7 meeting in honor of Dr. Julian E. Camp, Augusta, who recently finished his fiftieth year of continuous practice. Dr. Camp talked on "Medical Practice in 1880." Drs. Andy Hall, director, department of public health, spoke on "Relation Between the Health Department and the Practicing Physician"; William D. Chapman, Silvis, "Then and Now," and Everett P. Coleman, Canton, on "The Treatment of Eclampsia."

—The Max Pam Metabolic Unit for Clinical Research in diseases of metabolism was opened, July 21, at the Michael Reese Hospital. A capital fund of \$150,000 is provided for the maintenance of this unit, which is completely equipped for the investigation of metabolic diseases along physiologic and chemical lines. It will be conducted in cooperation with departments of the Nelson Morris Institute of Research, which is a part of the Michael Reese group.

—The annual dinner of the faculty and alumni of Northwestern University Medical School was held June 13. In his annual report, Dean Irving S. Cutter pointed out, among other things, that applications to the freshman class to May 1 exceeded 1,500; under the direction of Dr. Arthur H. Curtis, the departments of gynecology and obstetrics have combined with clinical teaching facilities at Passavant, Wesley, St. Luke's, Michael Reese and Evanston hospitals; the bound volumes in the Archibald Church Library have increased from 33,000 to 46,000 since last year. Dr. Frank Billings was elected president of the Alumni Association for the ensuing year.

—In a recent house to house canvass, covering about 1 per cent. of the population in every county of the state, the data on disease was compared with official health report files. Only twenty-six out of 102 counties of the state met the minimum requirements for a satisfactory reporting of communicable diseases, or 75 per cent. of all cases of diphtheria, infantile paralysis, scarlet fever, smallpox, typhoid fever and tuberculosis. The canvass disclosed that one-third of all cases of smallpox goes unreported. Less than

two out of three cases of diphtheria, typhoid and scarlet fever are reported to health authorities and more than two out of three cases of infantile paralysis escape notification. About half of the tuberculosis cases are registered.

—Dr. Joseph C. Bloodgood announces a meeting in the ballroom of the Belvidere Hotel, Baltimore, September 15-17, for the lantern slide demonstration of Diagnosis and Treatment of Diseases and Tumors of Bone. Slides or films of rare lesions may be presented for study to Miss Maude Walker, secretary to Dr. Bloodgood. As the capacity of the ballroom is limited to 800, it will be necessary to register with the hotel in advance.

—St. Mary's Hospital, Kankakee, announced the opening of a new wing, with a "Clinic Day," on May 6. The addition increases the capacity of the hospital to 150 beds. About 100 physicians were in attendance. The following program was given, Dr. A. L. Nickerson presiding:

FORENOON

SECTION ON MEDICINE

5th Floor—Parlor A

- 9:00—Pemphigus Dr. A. N. House
 9:30—Sarcoma of Vertebra with Involvement of the Cord..Dr. W. J. Hagstrom
 10:00—Coronary Sclerosis N. T. Stevens
 10:40—Pernicious Anemia G. H. Ayling
 11:20—Diabetes G. E. Irwin

SECTION ON SURGERY

5th Floor

- 9:00—Goitre—Op. Room 1.Dr. R. L. Benjamin
 Glaucoma—Op. Room 2.....
 ...Drs. J. H. Roth and C. W. Geiger
 Pelvic Tumor—Op. Room 3.....
Dr. J. A. Brown
 10:00—Goitre—Op. Room 1.....
Dr. E. S. Hamilton
 Bunion—Op. Room 3.....
Drs. Wilson, Bundy and Rayer
 11:00—Goitre—Op. Room 1.... Dr. E. P. Sloan
 Inguinal Hernia—Op. Room 2.....
 ...Drs. Cohn, Langlois and Goodwin
 12:15—Luncheon—4th floor.

Inspection of Hospital

AFTERNOON

Basement

Dr. J. A. Guertin, President County Medical Society, Presiding

- 2:00—Treatment of Varicose Veins.....
Dr. Geo. de Takats, Chicago
 2:40—Indications and Technique of Caesarean Section..Dr. F. H. Falls, Chicago
 3:20—Local Anesthesia in Fractures and Dislocations
Dr. C. R. G. Forrester, Chicago
 4:00—Dry Clinic on Goitre.....
Dr. E. P. Sloan, Bloomington

EVENING

Gold Room, Hotel Kankakee

6:30—Complimentary Banquet (informal).

Dr. A. M. Corwin, Chicago, Principal Speaker
 "A Doctor's Philosophy"

Deaths

WILLIAM SAMUEL BELLOWS, Waukegan, Ill.; Rush Medical College, Chicago, 1901; on the staffs of St. Therese's Hospital and the Victory Memorial Hospital; aged 55; died, June 24, of heart disease.

ALBERT LESLIE BRITTIN, Athens, Ill.; Rush Medical College, 1884; active in Civic and Medical organization affairs; president of Illinois State Medical Society, 1914-15; aged 68; died, July 10, following an operation for appendicitis at St. John's hospital, Springfield.

ADDIE E. F. GRAY, Chicago; Hering Medical College, Chicago, 1899; aged 73; died, June 30, of acute myocarditis and nephritis.

THOMAS C. HILL, Springfield, Ill.; Rush Medical College, Chicago, 1888; aged 66; died, June 7, in St. John's Hospital, of carcinoma of the bladder.

JAMES A. SHRADER, East Moline, Ill. (licensed, Iowa, 1886); veteran of the Civil War; aged 87; died, May 23, of diabetes mellitus.

CARL A. WEIL, Chicago; College of Physicians and Surgeons, Chicago, 1887; aged 69; died, May 17, of acute dilatation of the heart and chronic myocarditis.

HENRY ALFRED YOUNG, Chicago; Cleveland College of Physicians and Surgeons, Medical Department Ohio Wesleyan University, 1901; aged 56; died, July 5, in the Alexian Brothers Hospital, of cardiorenal disease.

VESPER SHAFF, Chicago; Northwestern University Woman's Medical School, Chicago, 1896; aged 66; on the staff of the Woman's and Children's Hospital, where she died, July 21, of diabetes mellitus.

JOHN L. WALKER, Peoria, Ill.; Hahnemann Medical College and Hospital, Chicago, 1881; aged 86; died, July 2, in the Proctor Hospital, of pneumonia, following an injury received when struck by an automobile while riding a bicycle.

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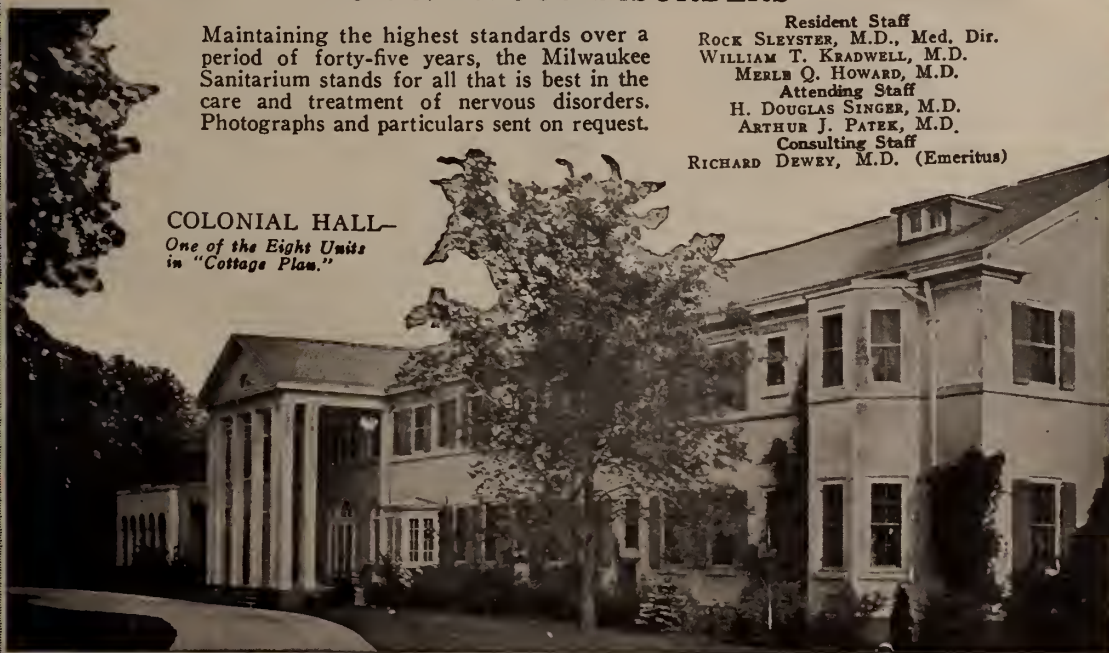
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Editorials

TRADE UNIONISM WHEN APPLIED TO
MEDICINE WILL NOT WORK OUT
SATISFACTORILY

CO-OPERATION AND DIPLOMACY ARE
THE KEYWORDS TO THE SOLUTION
OF OUR MEDICAL PROBLEMS

September is known colloquially as the month in which, in a manner of speaking, two great democratic festivals occur.

The most fundamental of these is the reopening of that magnificent American institution, the public school, with its humanizing, civilizing, enlightening opportunities for the humblest in the land. For in the little red schoolhouse or the wonderful granite and brick edifice of education the peal of the liberty bell rings on without ceasing.

The second of these fetes is the national observance of the first Monday of September as Labor Day. Set aside as a memorial to the men and women who have brought under the stars and stripes a more coherent working spirit between capital and labor than exists anywhere under the globe, the significance of Labor Day is monumental. It is one of the few beacons for sanity in the cancer of communism that eats ever at the vitals of civilization. Unlike May 1 demonstrations when red flag shows how vile a red rag can be in thousands of communities and cries aloud for "War, War, More War," this American and September festival is the worker at his constructive best, in such a demonstration of optimism and justice, and at peace with capitalism. It took America to produce such a festival.

There is to the scientific eye inspiration for thought and an appeal to justice over the year's great labor day demonstrations. For economic injustice, economic persecution, economic tyranny, economic interference, economic slaughter forced the working man into the first of those wild and terrific revolts against constituted

authority that wrought havoc and in turn begot similar injustices against the employer.

There is however, no doubt about it, but that the outrages brought results, even in the face of individual sacrifices and martyrdom. Scars left by conflicts of the last quarter of a century have not yet been erased from either individuals or institutions of either class, nor has the perfect pact as yet been achieved. It is all approximate, yet duly prophesied.

Even the scientific eye sees and admits this. And in view of the economic slaughter, economic interference, economic injustice, economic tyranny persecution and bias, now being forced upon the medical profession the scientific mind and the scientific voice may be excused if it asks,

"Must medicine, too, fight its people with the trade union spirit?"

Let there be no doubt about it but that if medicine had to, medicine could. Unfortunately the standardization that is a *sine qua non* for the working out of good trades unionism is an embargo upon the perfect functioning of the trade union spirit in a profession and a science so equivocated by the human element as is the practice of medicine. This has been proven a million times over in those countries where state medicine holds sway. Life and death do not wait upon human schedules. Nature remains the most powerful material god, and, where material manifestations are concerned, nature must be obeyed. The child emerging from the womb will not stay its course because the bell has not rung for childbirth hour. The wearied soul gasping its way into the hereafter stricken with pneumonia or tuberculosis can not be made to pause in its passing because of the workings of an eight-hour day.

No law is a good law that is not reversible. No column of figures is computed correctly if the results are not the same when added up as well as added down. To obtain a competent working economic condition for the medical profession that will give the general public that it serves maximum efficiency is the necessary item over which both public and profession must sit in conference.

State medicine can not do it. As Patrick Henry said so memorably—"It is natural for men to indulge in the illusions of hope I have no lamp to light my feet except the lamp of experience—I can only judge the future by the past."

With this yardstick state medicine shows up its inadequacies, futilities, paucities. In a flimsy onesided narrow fashion it partially covers a very small section of the question. Not until law made by man becomes greater than nature herself can such misconceived measures do anything else.

The remedy for which the entire situation clamors lies largely in the hands of medicine itself. Every physician realizes the terrific strength and thunderous demands of the problem that sits on the doorstep. Demanding adjustment are relations of ethical medicine with hospitals, dispensaries, universities practicing medicine, corporations practicing medicine, pay and part pay clinics, medical charities, endowed foundations, social service organizations, ill-advised but well meaning philanthropists, and other entities of unscientific, falsely premised effort, of which some exhibit tendencies to dominate situations vitally affecting the medical profession and bearing with menace upon the public health and upon civilization itself.

A branch of this problem of state medicine and its affiliated evils and of economic injustice that must be fought and disciplined by the physicians themselves is the crucial point of the physician abandoning or relinquishing his duty as preceptor, teacher or controlling spirit of medical colleges, institutions and universities, and permitting these tasks, inherently sacred to the medical profession to be taken over by either the less qualified nurse or a lay person. When such tasks include the rendering to patients of services within the scope of medical attendance, or other service such as can be given properly by physicians only, this becomes an actual malfeasance, civic as well as medical.

As lay dictation of medicine under the guise of welfare legislation is alarmingly on the increase through federal centralization the relation of the medical profession to constructive, and even to defensive medical legislation, must become more virile and more genuinely activated than it has been in the past. To this end state medical societies must develop along civic as well as medical and scientific lines, and there must be even more appreciation of the interdependence of organizations interested in mass welfare.

In Illinois organized medicine is now co-operating with more facility than at any time within its history. This is well. It has more

problems and more perplexing ones than ever before.

Some scheme of lowering the cost of medical education, some way of lowering hospital costs and some way of protecting the profession economically are but three of the angles of the situation struck squarely into the eyes of organized medicine while lay dictated control of medicine and hampering lay-wrought medical legislation deal the profession a deliberate foul blow beneath the belt.

Medicine can delay no longer. Inspired by the memory of organized labor's great September celebration there may be a few advanced minds who can be excused for feeling that the time has come for the medical profession to attack the question of medical economics as did the labor leaders of a half century ago. No matter how revolutionary one may feel in his heart, the balance wheel of reason insists that this will not do. Some lessons are too dear at half the price. On the contrary, only the highest of clever diplomacy will straighten out the kinks, the convolutions, the twists and the adhesions. Theoretically medicine must discard all shackles of entangling alliances. The standard must be established. It must be maintained. But because of the nature of the profession this standard cannot be that of trades unionism. Mother Nature remains the despot. The very people who bring about the dire economic straits of the profession today are those, who, if caught in the grist would be the first to cry out, against the work of their own hands.

This does not of course lessen the burden on the medical profession to get its house in order. Co-operation and diplomacy are the keywords. And as in any house-cleaning, "Many hands make light work."

GOVERNMENTAL CONTROL OF PRACTICE OF MEDICINE IS THE LAST STRAW NEEDED TO DESTROY THE USEFULNESS OR EFFICIENCY OF MEDICAL SERVICE

STATE MEDICINE A FAILURE IN ENGLAND

Emphasizing the dangers of the English system of medical care we quote from a recent London letter to the *Journal of the American Medical Association* as follows:

"State Medicine" may be defined generally as the extension of governmental activity in the health field through creating compulsory health insurance or free and pay clinics, or distributing physicians, or seeking complete control of medical practice as a public utility. A few of the many reasons for failure of state medicine in England are:

- "1. An enormous expense to the government.
2. It encourages perfunctory and inferior service and inadequate medical treatment. The doctor receives compensation whether his services are good, bad or indifferent. This is a terrible situation for the people.
3. It develops large numbers of neurotics who run to the doctor with any conceivable ailment, whether real or imaginary. It encourages costly malingering.
4. Public dissatisfaction has resulted in an enormous increase in quackery and cultism.
5. The people lose the right of the individual to select his own doctor. This one item should condemn state medicine for the United States. Individual choice of a physician is an inalienable right.
6. It undermines medical initiative, does not recognize merit, forgets the stimulation of medical research and tends to perilize medical progress.
7. It discourages the ambitious youth from the study of medicine and so leaves the field to men of inferior talent."

Doctors of Illinois can look with pride to the part played by the medical profession of the state in helping to prevent the establishment of compulsory health insurance in America. Our activities along this line dates back to the years 1919-1920-1921. We felt then and still feel that governmental control of the practice of medicine is the last straw needed to destroy the usefulness or efficiency of medical practice. Inauguration of compulsory health insurance or any other scheme providing for state medicine would inaugurate a regime of red tape, graft and political tightrope gymnastics that would put to shame the present day political control of civic affairs. Overstandardization and over centralization of affairs in Washington will prove a perilous experiment in the care of the sick.

WHAT WOULD THE CAPTAINS OF INDUSTRIES SAY IF THE MEDICAL PROFESSION ATTEMPTED TO MEDDLE WITH THEIR AFFAIRS?

Dr. Edward H. Ochsner of Chicago, an outstanding authority on medical economics, in a recent talk before the North Shore Branch of the Chicago Medical Society made some very pertinent remarks relative to some present dangers to medicine. We quote:

"That next to stability of government, honesty of administration and the general intelligence of the people, the welfare of the nation depends more upon the quality of medical service which is rendered to the people than upon any other one thing.

"The longevity, health, efficiency and happiness of the people depend more upon the integrity, ability and industry of its medical profession than upon anything else.

"The allied professions of medicine, dentistry and pharmacy are today giving the American man who is loyal to his country to fight to the any nation has ever had in the history of the world.

"If the above three postulates are true, then it is the plain duty of every physician to see to it that the present standard of medical efficiency is maintained, and the part of wisdom of every layman to encourage the regular medical profession so that it can maintain this standard and gradually make further improvements in order that the citizens of this country may enjoy the greatest possible degree of health, and it is the plain logical duty of every red blooded medical man who is loyal to his country to fight to the last ditch to prevent the socialization of medicine or its control by lay monopolists.

"The purpose of the study of economics is to safeguard and promote the material resources of a nation or a group within a nation. The study of medical economics has for its primary object the safeguarding and promoting of the material welfare of the medical profession, and for its secondary object the promoting of the general welfare of all the people.

"The main dangers to medicine as he sees them are:—Lack of balance between the main divisions of medicine; too great specialization

with resulting relative over-emphasis on the non-essentials; petty jealousies within the profession itself; misinformation of the true purpose of medical charity; misinformation as to the cost of being sick; misinformation as to the quality of medical service rendered to the man in moderate circumstances; misinformation as to the qualifications of the average medical man; and lay and political domination and control of the practice of medicine.

"The man who once accepts charity, particularly if it is not a case of dire necessity, is not quite as fine a man as he was before. He has lost something that nothing can replace. Many of the innumerable charitable organizations in existence are doing more, and have done more, to undermine character than can ever be evaluated; consequently, it is a serious question whether or not many of them have not actually done more harm than good.

"It is far better to be a little hungry, a little cold, or even a little sick physically than to have lost one's self-reliance and self-respect and to have become a human parasite. Parasitism is today the corroding canker of American life and nothing has fostered this more than unwise medical charity.

MISINFORMATION AS TO THE COST OF BEING SICK

"The onus of the increased cost of being sick is being placed upon the shoulders of the medical profession most unjustly; instead it should be placed upon the hospitals, and the public in general, where it justly belongs.

MISINFORMATION AS TO THE QUALITY OF MEDICAL SERVICE RENDERED TO THE MAN IN MODERATE CIRCUMSTANCES

"Another common assertion is that the man with a moderate income is not getting adequate medical service. This statement is essentially untrue. The man of moderate income is on the average getting better medical service than the very poor and the very rich. Probably not so much paraphernalia is employed in treatment, nor does he receive so many fancy and unnecessary laboratory tests and examinations, but he is getting the essentials to make him well, or keep him well.

MISINFORMATION AS TO THE QUALIFICATIONS OF THE AVERAGE MEDICAL MAN

"Another statement which one often hears is that the average practitioner of medicine is incompetent. This is equally untrue. No other group has rendered a greater service to society, for it has given good health and length of life, two of the greatest blessings man can possess, to an ever increasing number of men and women.

"What would the captains of industry say if the medical profession attempted to meddle with their affairs? Frankly, the medical profession has solved its problem more nearly and more satisfactorily than the industrialists. Frankly again, captains of industry had better pay higher wages or take smaller profits rather than acquire great fortunes and use them in pauperizing the public.

"American medicine is facing a crisis today such as it has not faced in our day and generation and probably not in its history, a crisis towards which many of us have realized that it was slowly drifting. The question today is—shall medicine continue in the the "straight and narrow path" which it has followed throughout the centuries, or shall it deviate therefrom and permit lay domination and control to direct it? There is no other group of men who have persistently maintained such high ideals both in theory and in practice, and a concerted effort is being made by misinformed laymen to destroy these ideals.

"He is a firm believer in the doctrine that right always triumphs provided only that it is defended with the same vigor, intelligence, determination and persistence with which wrong is usually championed. The medical profession being in the right will be able to defeat those who are unwittingly or selfishly working for the socialization of medicine, state medicine and monopoly controlled medicine all of which are identical in their effect."

KIND WORDS FOR THE DOCTOR

Much has been said, but not too much, concerning the Doctor and his part of the program in the processes of the social structure and lest we forget, some repetition will not be amiss at a time when the cry is being raised that he is responsible for the high cost of medical care.

To prepare himself under the law safeguarding the public, he is required to spend more time and money in his preparation to serve humanity than any other professional man. The very nature of this preparation, step by step, its safeguards with forced clinical experience before he may offer to serve, precludes his experimenting upon society while his life work is at its beginning.

There is little financial reward to him in his months of research but multiple in benefit are his efforts in behalf of mankind. The results of his findings are freely passed on in directing public health movement and clinical offerings.

Those directing the policies of medicine and its organizations are forced by drastic means to restrain the unscrupulous, who would commercialize human life and all its attributes. The critic who censures the seeming iron rule and what is called close corporation methods is either ignorant of general welfare or is hampered in same selfish project by the well directed control.

Should not those who know express a depth of gratitude, a testimonial to those directing influences which so thoroughly guard the very lives of loved ones and take on even national scope, and in proof of our sincerity, give hearty support and cooperation in movements featuring an extension of constructive self preservation.

The laborer is worthy of his hire; first called he is generally last paid and *statistics show that his part in the total expended on average sickness is only 20%*. Life is sweet and to the guardians of its destinies we owe recognition of general worth, also to those groups who by their own efforts in monies and time seek to consistently raise standards that they may serve humanity intelligently.

The Doctor is the General who directs the fight; the fight for life, he makes the decisions of great moment, he lives thro the crisis with the patient and the family and 'tis he who sorrows in all sincerity when the mystery of death encroaches. Knowing the mysteries of life and death, where unknown equations affect the result he must be brave to assume command and to assist at this critical time he must be freed from minor cares, must be encouraged to a clear mental attitude that he may serve to better purpose and by giving him that which costs but little, a sincere understanding, we cast bread

upon the waters which returns if not to us, to fellow man.

The very close observance by him of the ethical code bespeaks his sincerity—we who know him best are willing to testify as stated, also realizing that he is human, believe it or not, these are the facts and not flattery.—*Chicago Retail Drug-gists' Assn.*

HOBBIES OF MEDICAL MEN—DOCTORS WHO HAVE ACHIEVED FAME IN OTHER FIELDS THAN MEDICINE

DR. WILLIAM BARNES—ENTOMOLOGY*

Anyone who has ever scanned closely a lovely vagrant golden butterfly poised on a June day above an alabaster lily cup has felt the reason why the classic Greeks chose this lovely insect as the emblem of the soul—the Psyche.

Those who knew best the late Dr. William Barnes of Decatur, Ill., busied with the multifarious material duties of a neighborhood physician, can understand how he found rest indeed in his avocation of collecting butterflies.

Scientists the world over paid homage to Dr. Barnes and his butterflies. He was not “building a better mouse-trap,” this great man in a small community, but he was building up what is recognized as the greatest collection in existence of North American lepidoptera.

“Willy” Barnes was only five years old when he first began to collect flies and insects. He loved them for the magic beauty of their wings, their gossamer texture, their brilliant eyes. Later butterflies began to allure the dreamy, poetic child. At Harvard University, where he took his B. S. degree in 1883 prior to entering Harvard University Medical School, the young man had the great good fortune to come into contact with the great Agassiz. From this acquaintance, among other things, the young man learned the value both of making a collection of insects and of having it arranged systematically. After receiving his sheepskin in 1886, Dr. Barnes served an internship in the Boston City hospital going thence to Europe for post graduate work at Heidelberg, Munich and Vienna. All this while he managed to keep on collecting butterflies. In later years he found it necessary to have others do much of the actual work for him but he spared himself neither trouble nor

expense to have brought to him specimens from many remote places of both North America and Europe. Many a man has been sent to far far places to bring back certain types.

Naturally enough the analogous collecting and preservation of flowers and especially of wild-flowers was another hobby of Dr. Barnes and here, too, he was considered an authority.

Before his death Dr. Barnes' collection had grown so large and so valuable that for the housing of it, the physician had constructed a special fireproof addition to his residence in Decatur. Further, since his passing, a curator has been retained to look after the collection and to file new specimens. Scientists from all over the globe call at the Barnes Museum as it were to view his wonderful collection with its more than 500,000 specimens of butterflies and moths. June 13, 1930, President Hoover requested from the House an appropriation of \$50,000 to enable the secretary of agriculture to purchase this collection, for obvious and scientific reasons. Government experts are said to value the collection at \$1,000,000.

This is not the first time that the collection has been heard of in the national capital. The butterflies made a flying trip into politics in 1922 when Allen F. Moore of Monticello, then the congressman from that district, introduced a bill for the purchase of the collection for a total of \$300,000 and an additional \$10,000 for the cost of the collection's transportation to the Smithsonian Institute at Washington. This bill was never passed.

Some three years ago when an effort was made to purchase this collection and on behalf of foreign interests the *St. Louis Post Dispatch* carried an article commenting on the necessity for having some American trust, such as the Rockefeller foundation, purchase the collection. About that time it was further stated that the Barnes' collection is so complete and protean that it should be used as a basis for a national collection and sent to the national museum.

Dr. Barnes died May 1, 1930. Disposition of the collection of this capable physician and excellent citizen is not as yet announced.

Dr. Barnes was a fellow of the American College of Surgeons and a member of twelve influential scientific and entomological associations and societies, the American Medical Association, American Association for Advancement of

*A posthumous appreciation; Dr. Barnes died May 1, 1930.

Science, Illinois Medical Society, American Entomological Society, American Association of Economic Entomology, Entomological Societies of France, London, New York, Brooklyn and Washington, the Macon County Medical Society and the Illinois Academy of Science. He belonged to the Decatur Club, the University Club, the Elks Club, the South Side Country Club and the City Club all of Decatur. He was a member of the Harvard clubs of New York City and of Chicago and of the University Club of Chicago and of the Central Illinois Golf Association for which he had served as president.

In 1890 Dr. Barnes married Charlotte L. Gillett of Elkhart, Illinois. They had two children, William A. Jr., and Gillette Barnes now Mrs. Selim McArthur, and herself now the wife and daughter-in-law as well as daughter of a doctor.

Dr. Barnes began the practice of medicine in Decatur, Ill., from the very first he was known as one of the most prominent physicians of that locality and he became one of the well known surgeons of the state. He took care of his private practice and was concerned over the affairs of the community in which he lived and took an active part in them. His efforts were largely responsible for the Decatur and Macon County Hospital. Dr. Barnes was one of the first people to be interested in the forming of a country club in Decatur, he was also a Trustee of the Community Chest.

Among the thoughtful kindnesses performed by Dr. Barnes unbeknown was that each year from him members of the Decatur nurses' graduating class received their bouquets worn at the commencement exercises. The superintendent of nurses too was always remembered by receiving a bouquet made up of her school's flowers.

The large wild flower gardens at the Decatur and Macon County Hospital were planted under his direction and at his expense.

No shaft of marble, no sarcophagus of granite can ever do more for the memory of Dr. Barnes than the white hyacinths that he strewed so liberally by the wayside. Decatur will always love as well as honor him. He was their native son—the child of William A. and Eleanor Sawyer Barnes, born Sept. 3, 1860. He went to the grade schools in Decatur and in 1877 when he was graduated from the Decatur High school he had the honor of being salutatorian. Next

year he went to the Illinois State Normal and then he had a year at the University of Illinois before going to Harvard.

He was a true Illinoisan. He had greatness and all the world to welcome him, but loyally and graciously, and in the flush of youth, he turned and brought his gifts back home. He made his native habitat his world, and so, brought the world to his native habitat.

EDUCATIONAL COMMITTEE

Activities for June, July, August

Speakers Bureau:

16 Appointments filled.

27 Appointments scheduled for future dates.

Letters stating that speakers might be secured for Teachers Institutes were sent to County Superintendents of Schools.

We expect to arrange a series of health talks for the Englewood Y. M. C. A.

The West Chicago Young Mothers Club, for the third consecutive year, have asked for speakers to present health talks at five of their fall and winter meetings.

Letters sent to Principals of High Schools offering services of Educational Committee in observing Health Day of American Education Week.

Doctor Andy Hall believes that health talks and health articles in newspapers are bringing results. About 1,100 babies were examined at the State Fair. One out of every 3 babies had been immunized against diphtheria. In 1929 only one out of ten had been immunized.

Radio:

26 Health talks given at noon over WGN and WJJD:

Hay Fever—S. M. Feinberg.

Present Day Views of Goiter—David C. Straus.

Diseases of the Stomach—Jacob Meyer.

Keep Well When Vacationing—A. H. R. Kreuger.

Why the Medical Profession Is Opposed to the Sheppard-Towner Law—Charles E. Humiston.

Bronchial Asthma and Hay Fever—S. J. Taub.

Diseases of the Blood—R. H. Jaffe.

The Heart—Charles Wiley.

Early Symptoms and Minor Injuries—Marcus J. Hobart.

Focal Infections—Emil J. Stein.

Remote Effect of Girlhood Infections—E. B. Herdman.

Convergent Squint in Children—W. F. Moncreiff.

Infantile Paralysis.

Diarrhea or Colitis—M. H. Streicher.

What Are Gallstones—G. L. McWhorter.

Keeping Fit Through the Liver—John B. Haeberlin.

What Is Cancer—Aaron Arkin.

Sinus Infections and Swimming—C. H. Christoph.

Indigestion—Percy Hopkins.

Summer Vacations.

Occupation in Relation to Heart Disease—C. C. Maher.

Care of the Skin in Summer—C. W. Finnerud.

Infantile Paralysis—Silber C. Peacock.

Prenatal Care—R. C. Oldfield.

Common Deformities of Childhood—Robert O. Ritter.

Goiter—Earle I. Greene.

78 Health talks have been given under the auspices of the Illinois State Medical Society and the Chicago Pediatric Society. Station WJJD at 11:15 Daylight Saving Time.

The members of the Educational Committee have carefully checked over these 104 radio papers.

Press Service:

1,275 Articles mailed in our regular press service.

42 Articles mailed about Rock Island County Medical meeting.

58 Articles mailed about Madison County Medical meetings.

65 Articles on the importance of Correction of Defects in the Pre-School Child sent to communities sponsoring Summer Round-Up.

616 Articles mailed about the Summer Clinics sponsored by the Chicago Medical Society.

28 Health Articles written and approved by the Committee:

The Fourth of July.

Safe Swimming.

Summer.

Beware of Stray Dogs.

Infantile Paralysis.

Your Nails.

Food Poisoning in Hot Weather.

The Bell Rings for School.

Some Common Deformities of Childhood.

Seasonal Skin Disorders.

Diphtheria May Be Prevented.

Malaria Prevalent.

Sciatica.

Hernia.

Ivy Poisoning.

Varicose Veins and Phlebitis.

Sweets for Children.

How Do You Sleep?

Foot Troubles.

Sores in the Mouth.

Keeping the Baby Well in Summer.

Typhoid Fever May Be Prevented.

High Temperature Affliction.

Diarrhea or Colitis.

Trachoma in Illinois.

The X-Ray and Disease.

Rectal Ailments.

Pain in the Abdomen.

We made our annual check up of newspapers this spring to find out if our service was satisfactory. Service seems to be appreciated by editors. In order to find out if a question and answer column was desired, we included in our form this question, "Would you be interested in having a question and answer service in connection with the health column?" Out of over forty replies only six editors stated that they would want it.

Miscellaneous:

5 Moving Picture films secured.

23 Package Libraries loaned.

150 Package Libraries revised and new material added.

Organizations:

Woman's Auxiliary:

We have compiled package libraries on the following subjects which we felt might be of interest to the Auxiliaries.

State Medicine.

Medical Ethics.

Hospitals and Nursing.

Medical Problems.

Public Health.

Cost of Medical Care.

Illinois Congress of Parents and Teachers:

335 Summer Round-Up registrations in 1930

as compared with 158 in 1929 and 5 in 1925.

Articles sent from this office to all newspapers in communities sponsoring the Summer Round-Up. Letters sent to presidents and securities of County Medical Societies.

The following portion of a letter received from Mrs. C. W. Balch, State Chairman of Summer Round-Up for the Illinois Congress of Parents and Teachers, shows the very splendid spirit prevailing at least among the officers of that organization:

"I do appreciate your fine spirit of helpfulness and cooperation and thank you for your continued interest and support. If at any time you have suggestions to make, please feel free to make them for you are in a position to pass on suggestions and I assure you that they will be thankfully received. We all hope that the follow-up will be successful. If you have any promotional ideas for encouraging mothers to keep on until the corrections are made, we will be only too happy to receive any help along this line."

Chicago Commons:

Asked for help with some health programs this summer. We furnished speakers, films, and literature.

Scientific Service:

13 Appointments made for scientific talks before medical societies. Several appointments scheduled for September and October.

JEAN McARTHUR,
Secretary.

ANNUAL MEETING OF INTER-STATE POST GRADUATE MEDICAL ASSOCI- ATION OF NORTH AMERICA

The International Assembly of the Inter-State Postgraduate Medical Association of North America will be held at the Municipal Auditorium, Minneapolis, Minnesota, October 20-21-22-23-24, 1930.

Monday, October 20, 7:30 A. M.

Diagnostic Clinic (Surgical).

Dr. Hugh Cabot, Consulting Surgeon, Mayo Clinic, Rochester, Minn.

Diagnostic Clinic (Oto-Laryngological).

Dr. Samuel J. Kopetzky, Professor of Otology, New York Polyclinic Medical School and Hospital, New York, N. Y.

Diagnostic Clinic (Surgical).

Dr. Alfred T. Bazin, Professor of Surgery, McGill University Faculty of Medicine, Montreal, Can.

Diagnostic Clinic (Gynecological).

Dr. John O. Polak, Professor of Obstetrics and Gynecology, Long Island College Hospital, Brooklyn, N. Y.

Intermission for Review of Exhibits

Diagnostic Clinic (Surgical).

Dr. Donald C. Balfour, Professor of Surgery, University of Minnesota, Graduate School of Medicine, Mayo Clinic, Rochester, Minn.

Motion Talking Picture: "Cesarean Section."

Dr. Joseph B. DeLee, Professor of Obstetrics, Northwestern University Medical School, Chicago, Ill.
Picture presented by

Dr. M. Edward Davis, Assistant Professor of Obstetrics and Gynecology, Rush Medical College of the University of Chicago, Chicago, Ill.

Noon Intermission

Diagnostic Clinic (Medical).

Dr. Henry A. Christian, Professor of the Theory and Practice of Physic, Harvard University Medical School, Boston, Mass.

Diagnostic Clinic (Surgical).

Dr. William D. Haggard, Professor of Clinical Surgery, Vanderbilt University School of Medicine, Nashville, Tenn.

OBSTETRICS

Address: "The Composition of the Blood in Pregnancy with Special Relation to the Calcium Content."

Dr. Otto H. Schwarz, Professor of Obstetrics and Gynecology, Washington University School of Medicine, St. Louis, Mo.

Address: "Pregnancy in the Presence of Uterine Tumors."

Dr. Edmund B. Piper, Professor of Obstetrics, University of Pennsylvania School of Medicine, and Graduate School of Medicine of the University of Pennsylvania, Philadelphia, Pa.

Address: "An Analysis of One Thousand Consecutive Labors with the Child Presenting in an Obliquely Posterior Position."

Dr. John W. Williams, Professor of Obstetrics, Johns Hopkins University School of Medicine, Baltimore, Md.

Intermission for Review of Exhibits

OBSTETRICS (CONTINUED)

Address: "The Toxemias of Pregnancy from the Standpoint of the General Practitioner."

Dr. P. Brooke Bland, Professor of Obstetrics, Jefferson Medical College of Philadelphia, Philadelphia, Pa.

Address: "Prenatal and Post-natal Care in Obstetric Practice."

Dr. William B. Hendry, Professor of Obstetrics and Gynecology, University of Toronto Faculty of Medicine, Toronto, Canada.

Address: "Clinical Types of Nephritis."

Dr. Henry A. Christian, Professor of the Theory

and Practice of Physic, Harvard University Medical School, Boston, Mass.

Address: "Visceral Pain."

Dr. Robert D. Rudolf, Professor of Therapeutics, University of Toronto Faculty of Medicine, Toronto, Canada.

Address: "The Relationship of Disorders of the Digestive Tract to Anemia."

Dr. William B. Castle, Assistant Professor of Medicine, Harvard University Medical School, Boston, Mass.

Dinner Intermission

7:00 P. M.

OTO-LARYNGOLOGY

Address: "Tonsillectomy—When?"

Dr. Fielding O. Lewis, Professor of Laryngology, Jefferson Medical College of Philadelphia, Philadelphia, Pa.

Address: "Acute Systemic Infections of Otitic Origin."

Dr. Samuel J. Kopetzky, Professor of Otolaryngology, New York Polyclinic Medical School and Hospital, New York, N. Y.

Address: "The Salivary Glands."

Dr. William V. Mullin, Head of the Department of Oto-Laryngology, Cleveland Clinic, Cleveland, Ohio.

Address: "Cardiospasm."

Dr. Harris P. Mosher, Professor of Laryngology, Harvard University Medical School, Boston, Mass.

Address: "Surgery of the Pharynx."

Dr. Arnold Schwyzer, St. Paul, Minn.

Address: "The Treatment of Varicose Veins."

Dr. Alfred T. Bazin, Professor of Surgery, McGill University Faculty of Medicine, Montreal, Can.

Address: "The Relative Values of Irradiation and Operation in the Treatment of Uterine Tumors."

Dr. John O. Polak, Professor of Obstetrics and Gynecology, Long Island College Hospital, Brooklyn, N. Y.

Address: "Non-Operative Treatment of Retroversion of Uterus especially in connection with Pregnancy."

Dr. George H. Ryder, Clinical Professor of Obstetrics, Columbia University College of Physicians and Surgeons, New York, N. Y.

Tuesday, October 21st, 7:30 A. M.

Diagnostic Clinic (Surgical).

Dr. Edward W. Ochsner, Professor of Surgery, Tulane University of Louisiana School of Medicine, New Orleans, La.

Diagnostic Clinic (Urological).

Dr. William E. Lower, Director, Cleveland Clinic Foundation; Associate Professor of Genito-Urinary Surgery, Western Reserve University School of Medicine, Cleveland, Ohio.

Diagnostic Clinic (Surgical).

Dr. Carl A. Hedblom, Professor of Surgery University of Illinois College of Medicine, Chicago, Illinois.

Diagnostic Clinic (Urological).

Dr. William F. Braasch, Professor of Urology, University of Minnesota Graduate School of Medicine, Mayo Clinic, Rochester, Minnesota.

Intermission for Review of Exhibits

Diagnostic Clinic (Medical).

Dr. Harlow H. Brooks, Professor of Clinical Medicine, University and Bellevue Hospital Medical College, New York, N. Y.

Diagnostic Clinic (Pediatric).

Dr. Alan G. Brown, Associate Professor of Pediatrics, University of Toronto Faculty of Medicine, Toronto, Canada.

Diagnostic Clinic (Surgical).

Dr. Dallas B. Phemister, Professor of Surgery, Rush Medical College of the University of Chicago, Chicago, Ill.

Noon Intermission

Diagnostic Clinic (Urological).

Dr. William C. Quinby, Clinical Professor of Genito-Urinary Surgery, Harvard University Medical School, Boston, Mass.

Diagnostic Clinic (Surgical).

Dr. Irvin Abell, Clinical Professor of Surgery, University of Louisville School of Medicine, Louisville, Ky.

Address: "The Causes and Treatment of Some of the Circulatory Failures in Surgery."

Dr. Dallas B. Phemister, Professor of Surgery, Rush Medical College of the University of Chicago, Chicago, Ill.

UROLOGY

Address: "Renal Tumors."

Dr. William C. Quinby, Clinical Professor of Genito-Urinary Surgery, Harvard University Medical School, Boston, Mass.

Address: "Silent Lesions of the Genito-Urinary Tract."

Dr. William E. Lower, Director, Cleveland Clinic Foundation; Associate Professor of Genito-Urinary Surgery, Western Reserve University School of Medicine, Cleveland, Ohio.

Intermission for Review of Exhibits

UROLOGY (Continued)

Address: "Stricture of the Ureter."

Dr. William F. Braasch, Professor of Urology, University of Minnesota, Graduate School of Medicine, Mayo Clinic, Rochester, Minnesota.

Address: "Transplantation of the Ureters."

Dr. Robert C. Coffey, Clinical Professor of Surgery, University of Oregon Medical School, Portland, Oregon.

Address: "Tuberculous Disease of the Kidney."

Mr. Henry Wade, F. R. C. S., Surgeon, Royal Infirmary, Edinburgh; Senior Lecturer in Clinical Surgery, University of Edinburgh, Edinburgh, Scotland.

RESPIRATORY TRACT

Address: "The Treatment of Pneumonia."

Dr. Alvah H. Gordon, Associate Professor of Medicine, McGill University Faculty of Medicine, Montreal, Canada.

Address: "The Surgical Treatment of Pulmonary Tuberculosis."

Dr. Carl A. Hedblom, Professor of Surgery, University of Illinois College of Medicine, Chicago, Illinois.

Address: "The Treatment of Empyema."

Dr. Edward W. Ochsner, Professor of Surgery, Tulane University of Louisiana School of Medicine, New Orleans, La.

Dinner Intermission

7:30 P. M.

Address: "The Choice of Anesthesia with Particular Reference to the Rights of the Patient."

Dr. Hugo Cabot, Consulting Surgeon, Mayo Clinic, Rochester, Minnesota.

Address: "The Periodical Physical Examination."

Dr. Harlow H. Brooks, Professor of Clinical Medicine, University and Bellevue Hospital Medical College, New York, N. Y.

ESOPHAGUS AND STOMACH

Address: "The Treatment of Gastric and Duodenal Ulcer."

Dr. Donald C. Balfour, Professor of Surgery, University of Minnesota, Graduate School of Medicine, Mayo Clinic, Rochester, Minnesota.

Address: "Surgical Aspects of Chronic Dyspepsia."

Dr. Irvin Abell, Professor of Surgery, University of Louisville School of Medicine, Louisville, Ky.

Address: "The Practical Control of Gastric Motility."

Dr. T. Wingate Todd, Henry Wilson Payne Professor of Anatomy, Western Reserve University School of Medicine, Cleveland, Ohio.

Address: "The Location of Metastases from the Genito-Urinary Tract and from the Thyroid Gland."

Dr. Bernard H. Nichols, Head of the Department of Roentgenology, Cleveland Clinic, Cleveland, Ohio.

Address: "Abdominal Surgery and the General Practitioner."

Dr. William D. Haggard, Professor of Clinical Surgery, Vanderbilt University School of Medicine, President of the Inter-State Postgraduate Medical Association of North America, Nashville, Tenn.

Wednesday, October 22nd, 7:30 A. M.

Diagnostic Clinic (Pediatric).

Dr. Isaac A. Abt, Professor of Pediatrics, Northwestern University Medical School, Chicago, Ill.

Diagnostic Clinic (Surgical).

Dr. Charles H. Mayo, Associate Chief of Staff, Mayo Clinic; Professor of Surgery, University of Minnesota, Graduate School of Medicine, Rochester, Minnesota.

Diagnostic Clinic (Medical).

Dr. Elliott P. Joslin, Clinical Professor of Medicine, Harvard University Medical School, Boston, Mass.

Diagnostic Clinic (Surgical).

Dr. John B. Deaver, Emeritus Professor of Surgery, University of Pennsylvania School of Medicine, and Professor of Surgery, Graduate School of Medicine of the University of Pennsylvania, Philadelphia, Pa.

Intermission for Review of Exhibits

Diagnostic Clinic (Pediatric).

Dr. Fritz B. Talbot, Clinical Professor of Pediatrics, Harvard University Medical School, Boston, Mass.

Diagnostic Clinic (Surgical).

Dr. Nathaniel Allison, Professor of Surgery, Rush Medical College of the University of Chicago, Chicago, Illinois.

Diagnostic Clinic (Surgical).

Dr. Dean D. Lewis, Professor of Surgery, Johns Hopkins University School of Medicine, Baltimore, Md.

Noon Intermission

Diagnostic Clinic (Surgical).

Dr. John F. Erdmann, Professor of Surgery, New York Post-Graduate Medical School, New York, N. Y.

Address: "The Eye-Grounds in General Diagnosis." The Joseph Schneider Foundation Presentation.

Dr. Frank E. Burch, Professor of Ophthalmology and Oto-Laryngology, University of Minnesota School of Medicine, Minneapolis, Minn.

Address: "The Treatment of Hernia."

Dr. John B. Deaver, Emeritus Professor of Surgery, University of Pennsylvania, School of Medicine, and Professor of Surgery, Graduate School of Medicine of the University of Pennsylvania, Philadelphia, Pa.

Address:

Dr. A. H. M. J. Van Rooy, Professor of Obstetrics and Gynecology, Medical Department of the University of Amsterdam, Amsterdam, Holland.

Address: "Psychoses of Different Age Periods."

Dr. William A. White, Professor of Psychiatry, George Washington University Medical School, and Professor of Mental and Nervous Diseases, Georgetown University School of Medicine, Washington, D. C.

Intermission for Review of Exhibits

FRACTURES

Address: "Operative Treatment of Fractures."

Dr. Charles L. Scudder, Assistant Professor of Surgery, Harvard University Medical School, Boston, Mass.

Address: "Fracture of the Shoulder."

Dr. Paul B. Magnuson, Assistant Professor of Surgery, Northwestern University Medical School, Chicago, Illinois.

Address: "Fractures Involving the Foot and Ankle Joint."

Dr. Fraser B. Gurd, Lecturer in Surgery, McGill University, Faculty of Medicine, Montreal, Can.

Address: "Infections and Their Treatment."

Dr. Dean D. Lewis, Professor of Surgery, Johns Hopkins University School of Medicine, Baltimore, Md.

Dinner Intermission

7:30 P. M.

Address: "Relationship of the Eye to General Disease."

Dr. Charles H. Mayo, Associate Chief of Staff, Mayo Clinic; Professor of Surgery, University of Minnesota, Graduate School of Medicine, Rochester, Minn.

Address: "Unclassified Glycosurias—Their Significance and Outcome."

Dr. Elliott P. Joslin, Clinical Professor of Medicine, Harvard University Medical School, Boston, Mass.

PEDIATRICS

Address: "Fetal Peritonitis and Sequelae."

Dr. Isaac A. Abt, Professor of Pediatrics, Northwestern University Medical School, Chicago, Ill.

Address: "The Prevention and Treatment of Rickets with Especial Relation to the Value of Sunshine."

Dr. Alan G. Brown, Associate Professor of Pediatrics, University of Toronto Faculty of Medicine, Toronto, Canada.

Address: "The Dietary Treatment of Epilepsy in Children."

Dr. Fritz B. Talbot, Clinical Professor of Pediatrics, Harvard University Medical School, Boston, Mass.

ORTHOPEDICS

Address: "Infectious Arthritis."

Dr. Nathaniel Allison, Professor of Surgery, Rush Medical College of the University of Chicago, Chicago, Illinois.

Address: "Lumbodynic Operations for the Relief of Lumbo-Sacral and Sacro-Iliac Pain."

Dr. Edwin W. Ryerson, Professor of Orthopedic Surgery, Northwestern University Medical School, Chicago, Illinois.

Address: "Pott's Disease—Symptoms and Treatment."

Dr. William G. Turner, Clinical Professor of Orthopedic Surgery, McGill University Faculty of Medicine, Montreal, Canada.

Address: "Relaxed Knees and Torn Crucial Ligaments and the Disability following such an Injury."

Dr. George E. Bennett, Associate Professor of Clinical Orthopedic Surgery, Johns Hopkins University School of Medicine, Baltimore, Md.

Thursday, October 23, 7:30 A. M.

Diagnostic Clinic (Surgical).

Dr. Burton J. Lee, Professor of Clinical Surgery, Cornell University Medical College, New York, N. Y.

Diagnostic Clinic (Medical).

Dr. Elsworth S. Smith, Professor of Clinical Medicine, Washington University School of Medicine, St. Louis, Mo.

Diagnostic Clinic (Surgical).

Dr. Frank H. Lahey, Director, Lahey Clinic, Boston, Mass.

Diagnostic Clinic (Medical).

Dr. Emanuel Libmann, Professor of Clinical Medicine, Columbia University College of Physicians and Surgeons, New York, N. Y.

Intermission for Review of Exhibits

Diagnostic Clinic (Surgical).

Dr. Walter E. Dandy, Associate Professor of Clinical Surgery, Johns Hopkins University School of Medicine, Baltimore, Md.

Diagnostic Clinic (Medical).

Dr. Charles A. Elliott, Professor of Medicine, Northwestern University Medical School, Chicago, Illinois.

Diagnostic Clinic: "The Diagnosis and Selection of Cases for Sympathetic Ganglionectomy and Trunk Resection in the Treatment of Peripheral Vascular Diseases."

Dr. Alfred W. Adson, Associate Professor of Surgery, University of Minnesota, Graduate School of Medicine, Mayo Clinic, Rochester, Minnesota.

Dr. George E. Brown, Associate Professor of Medicine, University of Minnesota Graduate School of Medicine, Mayo Clinic, Rochester, Minnesota.

Noon Intermission

Diagnostic Clinic (Medical).

Dr. John H. Musser, Professor of Medicine, Tulane University of Louisiana School of Medicine, New Orleans, La.

Diagnostic Clinic (Surgical).

Dr. E. Starr Judd, Professor of Surgery, University of Minnesota Graduate School of Medicine, Mayo Clinic, President-Elect American Medical Association, Rochester, Minn.

Address: "Types and Treatment of Rheumatism."

Dr. Russell L. Haden, Chief of the Medical Division, Cleveland Clinic, Cleveland, Ohio.

DERMATOLOGY

Address: "The Differential Diagnosis of Syphilitic and Non-Syphilitic Eruptions."

Dr. Howard Fox, Professor of Dermatology and Syphilology, University and Bellevue Hospital Medical College, New York, N. Y.

Address: "X-ray Treatment of Skin Malignancies."

Dr. James M. Martin, Professor of Radiology, Baylor University College of Medicine, Dallas, Tex.

Intermission for Review of Exhibits

CIRCULATORY SYSTEM

Address: "Coronary Thrombosis and its Sequelae."

Dr. Emanuel Libman, Professor of Clinical Medicine, Columbia University College of Physicians and Surgeons, New York, N. Y.

Address: "The Treatment of Essential Hypertension."

Dr. Elsworth S. Smith, Professor of Clinical Medicine, Washington University School of Medicine, St. Louis, Mo.

Address: "X-ray Examination of the Heart and Aorta."

Dr. George W. Holmes, Assistant Professor of Roentgenology, Harvard University Medical School, Boston, Mass.

Address: "The Diagnosis and Treatment of Pericarditis—The Cardiac Condition Most Frequently Missed."

Dr. Charles S. Williamson, Professor of Medicine, University of Illinois College of Medicine, Chicago, Illinois.

Address: "Anemias Simulating Pernicious Anemia."

Dr. John H. Musser, Professor of Medicine, Tulane University of Louisiana School of Medicine, New Orleans, La.

Dinner Intermission

7:30 P. M.

MALIGNANT DISEASES

Address: "Surgery and Irradiation in the Treatment of Mammary Cancer."

Dr. Burton J. Lee, Professor of Clinical Surgery, Cornell University Medical College, New York, N. Y.

Address: "Cancer of the Stomach."

Dr. Frederick N. G. Starr, Professor of Clinical Surgery, University of Toronto Faculty of Medicine, Toronto, Canada.

Address: "Cancer of the Rectum."

Dr. John F. Erdmann, Professor of Surgery, New York Post-Graduate Medical School, New York, N. Y.

Address: "Reconstructive Surgery of the Face," illustrated by colored motion picture.

Dr. Joseph E. Sheehan, Professor of Plastic Surgery, New York, Post-Graduate Medical School, New York, N. Y.

INDUSTRIAL MEDICINE AND SURGERY

Address: "Underlying Principles of Traumatic Surgery."

Dr. John W. Martin, Vice-President and Director of the Surgical Department, U. S. Fidelity and Guarantee Company, Baltimore, Md.

Address: "Industrial Toxemias."

Dr. Jean S. Millard, Goodyear Rubber Company, Akron, Ohio.

Address: "Preventive Medicine in Industry."

Dr. Cassius H. Watson, American Telephone and Telegraph Company, New York, N. Y.

Address: "Industrial Surgery as a Specialized Field."

Dr. Roy D. McClure, Surgeon-in-Chief, Henry Ford Hospital, Detroit, Michigan.

Address: "End Results of Fractures in Industry."

Dr. Loyal A. Shoudy, Chief Surgeon, Bethlehem Steel Company, Bethlehem, Pennsylvania.

Friday, October 24, 7:30 A. M.

Diagnostic Clinic (Medical).

Dr. David P. Barr, Professor of Medicine, Washington University School of Medicine, St. Louis, Missouri.

Diagnostic Clinic (Surgical).

Dr. George W. Crile, Director, Cleveland Clinic Foundation; Professor Emeritus of Surgery, Western Reserve University School of Medicine, Cleveland, Ohio.

Diagnostic Clinic (Medical).

Dr. Leonard G. Rowntree, Professor of Medicine, University of Minnesota, Graduate School of Medicine, Mayo Clinic, Rochester, Minn.

Diagnostic Clinic (Surgical).

Dr. Arthur Dean Bevan, Clinical Professor of Surgery and Head of Surgical Department, Rush Medical College of the University of Chicago, Chicago, Illinois.

Intermission for Review of Exhibits

Diagnostic Clinic (Medical).

Dr. Henry S. Plummer, Professor of Medicine, University of Minnesota, Graduate School of Medicine, Mayo Clinic, Rochester, Minn.

BRAIN AND CENTRAL NERVOUS SYSTEM

Address: "The Differential Diagnosis of Intracranial Lesions."

Dr. Alfred W. Adson, Associate Professor of Surgery, University of Minnesota, Graduate School of Medicine, Mayo Clinic, Rochester, Minn.

Address: "Tic Douloureux."

Dr. Walter E. Dandy, Associate Professor of Clinical Surgery, Johns Hopkins University School of Medicine, Baltimore, Md.

Address: "The Importance of a Consideration of the Autonomic Nervous System in Medicine and Surgery."

Dr. William J. Mayo, Chief of Staff, Mayo Clinic, Rochester, Minnesota.

Noon Intermission

THE THYROID GLAND

Address: "Late Results of Thyroidectomy for Hyperthyroidism."

Dr. Charles A. Elliott, Professor of Medicine, Northwestern University Medical School, Chicago, Illinois.

Address: "Mortality Factors in Thyroid Disease."

Dr. Frank H. Lahey, Director, Lahey Clinic, Boston, Mass.

Address: "The Thyroid Heart."

Dr. Stewart R. Roberts, Professor of Clinical Medicine, Emory University School of Medicine, Atlanta, Ga.

Address: "Cause of the Specific Phenomena of Exophthalmic Goiter."

Dr. Henry S. Plummer, Professor of Medicine, University of Minnesota, Graduate School of Medicine, Mayo Clinic, Rochester, Minn.

Address: "Newer Methods for the Management of the Bad Risk Patient."

Dr. George W. Crile, Director, Cleveland Clinic Foundation; Professor Emeritus of Surgery, Western Reserve University School of Medicine, Cleveland, Ohio.

Address: "Acute Abdominal Conditions."

Dr. Arthur Dean Bevan, Clinical Professor of Surgery and Head of Surgical Department, Rush Medical College of the University of Chicago, Chicago, Illinois.

LIVER AND GALL-BLADDER

Address: "The Significance of Jaundice."

Dr. David P. Barr, Professor of Medicine, Washington University School of Medicine, St. Louis, Mo.

Address: "The Value of Tests for Liver Function."

Dr. William J. Kerr, Professor of Medicine, University of California Medical School, San Francisco, California.

Address: "Cirrhosis of Liver."

Dr. Leonard G. Rowntree, Professor of Medicine, University of Minnesota, Graduate School of Medicine, Mayo Clinic, Rochester, Minnesota.

Address: "Surgical Lessons of the Bile Ducts."

Dr. E. Starr Judd, Professor of Surgery, University of Minnesota, Graduate School of Medicine, Mayo Clinic, Rochester, Minn.

Address: "Observations on the Etiology of Gall Stones."

Dr. Andrew C. Ivy, Professor of Physiology and Pharmacology, Northwestern University Medical School, Chicago, Illinois.

The acceptances of the following distinguished guests were received too late for them to be included in the above program. They will, however, take part in the program some time during the Assembly:

POSITIVE

Dr. Ferdinand Sauerbruch, Prof. of Surgery, Medical Department, University of Berlin, Berlin, Germany.

Address: "Operative Treatment of Cataract."

Dr. Emile de Grosz, Prof. of Ophthalmology, Medical Department, University of Budapest, Budapest, Hungary.

TENTATIVE

Dr. Ray Lyman Wilbur, Secretary of the Interior, U. S. A., Washington, D. C.

Dr. Paul Clairmont, Prof. of Surgery and Head of the Department of Surgery, Medical Department, University of Zurich, Switzerland.

Dr. Edmund Gros, American Hospital in Paris, Paris, France.

Detailed information relative to the meeting can be procured by writing Dr. Edwin Henes, Jr., executive secretary, 445 Milwaukee St., Milwaukee, Wis. See advertisement on page 2 this issue.

AN UP-TO-DATE SURVEY OF ACUTE ANTERIOR POLIOMYELITIS

Because of the large number of cases of infantile paralysis that is appearing over the country in the last few months we feel that it is highly proper to give the subject as much publicity of possible. The following article is an up-to-date survey of the subject written by George M. Stevens, M. D., epidemiologist of the Los Angeles Health Department, printed by George Parrish, M. D., Health Officer of Los Angeles, and reproduced in the August issue of *California & Western Medicine*.

INFANTILE PARALYSIS*

1. *What is "Polio"?*—Acute Anterior Poliomyelitis (Infantile Paralysis).

An acute systemic infectious disease which in a limited number of cases tends toward an involvement of the gray matter of the central nervous system, capable of causing widely disseminated lesions throughout the tissues of the brain and cord. The toxin produced in this disease has a special affinity for destroying the gray matter of motor tracts and seldom affects except indirectly the sensory tracts. The disease occurs spasmodically, but has strong epidemic propensities. It is of sudden onset and is a disease preëminently of childhood and young adults.

2. *What Do We Know About Its History?*—It is of comparative recent origin. First recognized for what it really was, an epidemic disease, by Michael Underwood in his "Diseases of Children," published in 1784. In 1884 an epidemic started in Stockholm, Sweden, and since that time has spread intermittently all over the world. Where it once attains a foothold there it remains, occurring spasmodically or rather mildly endemic, occasionally lighting up into epidemics, always leaving a train of death and three times as many more crippled children in its wake. The rattlesnake and deadly cobra give some warning and against them man has battled successfully; but this, a thing more deadly and unseen, remained for many years a dreaded mystery, seemingly unsolvable. Like measles and other infectious fevers, the first epidemics in a people new to its manifestations have been more virulent and deadly, with a larger number of people affected than in epidemics following. The first real epidemic came to Los Angeles in 1913, with 242 cases and 47 deaths. We had had a few cases now and then for a couple of years before. It has been with us ever since and has assumed epidemic proportions at times.

3. *Will This Be a "Polio" Year?*—"Polio" has generally manifested its epidemic propensities in the summer months. June is ordinarily considered the key month. If there is considerable of a rise in June we look for more in July, August, September and October. In the city of Los Angeles, with three cases in

March, seven in April, eight in May and over fifty in June, we can look forward to cases of infantile paralysis until the warm weather is over.

4. *What Is the Cause of "Polio"?*—It has been proved that a filterable virus carrying the infection is responsible (Flexner and Lewis in 1909) and this same year three different observers working independently succeeded in transmitting the disease from one monkey to another.

5. *What Has Been Learned by Research and Experimentation?*—The early investigations showed diplococci, streptococci or micrococci in the spinal fluid. These organisms are probably secondary invaders and some of them, grown under anaërobic conditions, assume the shape of the globoid bodies described by Flexner and Noguchi. All of these can be filtered out and the filtrated fluid will still produce the disease in monkeys. The usual laboratory animals, rabbits, guinea pigs, etc., are not suitable for experimentation; of all animals only monkeys are affected with the same systemic and cerebrospinal involvement as in man. It has been definitely established that the virus gains entrance into the blood, lymphatics and central nervous system by way of the nasopharynx; also that virus implanted in the nasopharynx does not invariably gain entrance into the central nervous system, and only in exceptional instances does this result. Only once in about two hundred times (according to Harold Amoss, of Johns Hopkins Medical School).

In other words, according to Amoss, two hundred people can be "Polio" carriers for every one that develops a paralysis. If this is true, a great natural resistance exists against poliomyelitis in most individuals.

Epidemiological studies of epidemics bear out the truth of this statement. While more than one case in a family does occur, it is the usual thing, occurring in not over five per cent of the cases. In fact it has often been called the one case in a family disease. The failure of the virus to infect is inexplicable. Experiments in the Rockefeller Institute have demonstrated the following facts. These facts are important; they pave the way to at least partial control of this disease. Get this:

Experiment No. 1. "Polio" virus from the nasal mucosa or spinal canal of the one afflicted, injected into the spinal canal of the monkey, produces "Polio."

Experiment No. 2. "Polio" virus plus the normal secretion from a healthy nose, allowed to stand for a time, and then injected into the spinal canal of a monkey, does not produce the disease—virus neutralized.

Experiment No. 3. A pledget of cotton soaked with the virus placed well back in the nose of monkeys is removed after two hours; the animals usually remain well.

Experiment No. 4. Pledget of cotton soaked with "Polio" virus placed well back in the nose of monkeys, is allowed to remain twelve hours. Experimental poliomyelitis results, showing that the permeability of the mucosa is penetrated by the virus. Long continued contact has overcome the natural resistance.

Experiment No. 5. A healthy contact to a "Polio" case is selected. Virus from a "Polio" case is mixed with his nasal secretions and allowed to stand. This is then injected into the spinal canal of a monkey. The monkey contracts the disease, demonstrating that nasal washings from carriers do not neutralize the virus.

Experiment No. 6. A healthy individual is selected who has never been in contact with the disease and whose nasal washings have been proved by Experiment No. 2, to neutralize the virus. His nasopharynx is treated with some one of the antiseptics, saline sol., argyrol or even plain water for a few times. After treatment his nasal washings are mixed with the virus and injected into the spinal canal of a monkey and his nasal washings have lost the power to effect a neutralization of the virus.

During the period of a common cold, the washings do not neutralize.

Virus has been detected in nasal washings six to nine days before the onset of the disease. (Harold Amoss, Johns Hopkins Medical School Bulletin of The New York Academy of Medicine. Vol. II, No. 9, Sept. 1926.)

6. *How Does It Spread?*—Mostly from contact with carriers who have not been ill with the disease and will not be. Sometimes, but infrequently from known frank cases. The virus is spread from nose to nose much as a common cold; indirectly at times through infected articles; insects and flies, and milk have at times been found indirectly to transport it; dust from the air is probably a common way. Almost never spreads in hospital wards, nor does it affect doctors and nurses as is the case with all other infectious fevers. Bowel discharges and articles soiled therewith from patients are infectious.

7. *Who Are the Victims?*—The victims are young children, adolescents and occasionally an adult. The most susceptible age is under five years, but strange to say these young children often combat the disease better than those older.

8. *What Is the Incubation Period?* From three to ten days commonly six days.

9. *What Are the Symptoms?*—Most of the cases have very slight general symptoms and frequently escape notice. In about five per cent of the cases paralysis strikes out of the blue; in the other 95 per cent fever always occurs and is the most constantly found symptom. It may be low or high, generally low. Headache is the next most common symptom and is found in practically all cases where patient is old enough to describe the sensation. Constipation is the rule, but diarrhoea has occurred in some epidemics. Pain, tenderness and muscle soreness are nearly always present. Stiff neck occurs in 40 per cent of the cases. In many instances the patient looks very much sicker than the temperature and pulse would indicate. Sweating is very common. A valuable sign is the fading of color in the eyes and oftentimes a glassy appearance. (Ask the mother about this.) Extreme irritability is common in some; stupor in others.

Tremors and twitching of the muscles somewhere is often observed. Convulsions occur in babies. Delirium occurs at times, but is generally of short duration. Reflexes are disturbed or absent when the poison reaches or has reached the central nervous system. If this has occurred, then disturbances of taste, speech, deglutition, breathing and all kinds of muscle paralysis may be observed according to what particular spot the gray matter in the cord or bulb becomes disorganized. Not all of these symptoms enumerated appear in any one case. Diagnosis on the start is difficult.

10. *What Are the Different Types?*—Classified as to symptoms:

1. The abortive type.
2. The one-hump type.
3. The dromedary type.
4. The out-of-the-blue type.

The most useful classification for clinical use as met with in practice is as follows:

1. The spinal poliomyelitic form,
2. The meningitic,
3. The encephalitic.
4. The form resembling Landry's paralysis,
5. The abortive,
6. The bulbar or pontine form,
7. The ataxic,
8. The polyneuritic (resembling neuritis).

11. *How Is a Positive Diagnosis Made?*—This may be easy or difficult.

Easy, where motor paralysis is present and the history, symptoms and signs check up with the findings. Here the diagnosis is made too late to abort the disease.

Difficult and oftentimes impossible in the abortive and preparalytic state of the paralytic type unless blood and spinal fluid tests are made. If these tests are made by competent men they are reliable and run true. Every beginning "Polio" or case strongly suspected of being "Polio" should be a hospital case. Early diagnosis and early treatment with convalescent blood will save lives and prevent much crippling.

The leucocytes (white blood corpuscles) in blood are increased in the early stages. (Normal, 7,500; anything above that is leucocytosis.) This occurs also in other diseases but not with those easily confused with "Polio," and besides there is apt to be an increase in the proportional number of mononuclear cells.

If the toxin has reached the spinal fluid, the spinal fluid is clear under pressure and the cell count increased above the normal, generally with a preponderance of polymorphonuclear cells in the early days, later a preponderance of lymphocytes.

The colloidal benzoin test has been used in the General Hospital for several years and is extremely useful and correct in recognizing those doubtful cases of poliomyelitis with no paralysis and rather close to the normal cell count line. It is nearly 100 per cent positive in the first three weeks of "Polio," in tubes

6, 7, 8, 9. It is also very useful in making a distinction between encephalitis and T. B. meningitis.

12. *Can a Preparalytic Diagnosis be Made?*—Yes. By the methods just enumerated and it is being more frequently done than formerly.

13. *What Are the Methods of Prevention?*

1. Recognition of the disease.
2. Isolation and quarantine of cases.
3. Beside concurrent disinfection with medical aseptic technic and exclusion of other members of family from sick room.
4. Education of physicians and the public as to the real facts, with daily information as to the number of cases, prophylactic methods, etc.
5. Prophylactic methods:
 - (a) Keep away from sick people.
 - (b) Avoid crowds. (This applies to grown-ups as well as children, as we may all become carriers.)
 - (c) Protect yourselves as far as possible against colds. Do not get overheated. Do not get fatigued or chilled.
 - (d) Get plenty of sleep—make the children take a nap.
 - (e) Exercise in moderation.
 - (f) Plenty of fresh air and sunshine in the house with screens.
 - (g) Eat in moderation.
 - (h) Do not worry.
 - (i) As far as possible, avoid dust and dirt; keep down the dust about your house by the use of a hose.
 - (j) Wash the hands before eating.
 - (k) Keep the house clean.
 - (l) Keep yourself clean and the children clean; do not let them wallow in the dirt.
 - (m) Most people are better off at home than to try to run away from trouble.

ABOVE ALL:

- (n) Do not do anything that will neutralize the natural protection afforded by the normal mucus in your nose and throat. Do not use any antiseptic solutions in the nose or throat as a prophylactic. Even plain water is harmful.
- (o) Keep out of swimming pools. They are not harmful per se—water in the nose or throat by washing out the natural secretions neutralizes your protection. Diving is particularly harmful.

14. *Can We Foretell From Facts and Figures the Future of the Present Flare-up?*—We surely can to a certain extent.

The population of Los Angeles in 1912, when we had our most severe epidemic, was 430,000. At that time we had for the year, 242 cases and 47 deaths (approximately one case for every 1,776 people). The next most severe epidemic was for the year ending 1927, with 146 cases and 37 deaths (one case to every

6,438 people) and our population at this time was well up to 1,000,000.

With three times the population now that we had in 1912, we might expect if other conditions are the same to have three times as many cases for the year, or 726 cases, with 141 deaths. This amount hardly seems possible when we remember that the first real epidemic of "Polio" in any community is always the most virulent.

With 279,000 school children which we now have, add another 71,000 for good measure, to include the universities and other young adults, we have approximately 350,000 susceptibles; divide this by 200, the figures quoted by Harold Amoss as the susceptibility rate, and we get the figure 1,750, which is the worst that could happen to us without control by known preventive measures and if all the susceptibles came down with the disease.

15. *Does a Specific Form of Treatment Exist?*—Yes! The immune blood of a person who has recovered from the disease if given before paralysis sets in is specific. It also will produce a relative immunity lasting for six weeks or longer if given before the symptoms occur.

16. *What Is the Very Latest on Treatment?*—Cisternal puncture has to a certain extent supplanted lumbar puncture. Often both are used. It is better in that serum can be introduced where it will do the most good quickly and where gravity is brought to our assistance. It is just as safe.

17. *Is Quarantine Efficient?*—In the light of present knowledge we cannot believe otherwise, but the major problem is that of the healthy carrier.

18. *What Is the Nursing Technic?*—As far as prophylaxis goes, isolation from others in a well ventilated, screened room, concurrent bedside disinfection and medical aseptic technic.

19. *What Are the Lines of Defense?*—As enumerated in 13 on "Prevention, emphasis is again placed on the avoidance of contact with those ill with the disease and with carriers. As nearly anyone may be a carrier, this means to avoid carefully the lessening of local or body resistance.

20. *Will "Polio" Ever Be Conquered?*—A specific method similar to the Schick test will sooner or later be discovered; more than likely a method of immunization against the disease will follow. A remedy to augment or take the place of immune blood will be found.

21. *What Should the Householder Do When He Suspects a Case in His Family?*—Call a reliable doctor at once. If you have none or cannot afford one, call the Health Department.

After you get a doctor, do as he tells you.

Do not oppose sending the case to the hospital and do not oppose cisternal puncture with immune blood treatment.

Do not oppose quarantine. Protect others in your family at this time by isolating as far as possible the

first sick one. Do not let a well child be in the same room or sleep in the same bed with the sick one and above all, act quick.

Correspondence

MORE ABOUT THE POOR

On page 3 of the July, 1930, issue of the ILLINOIS MEDICAL JOURNAL appears an editorial headed, "Our Philanthropy Was Really the Cause of Our Undoing. Who is Responsible for the Poor? Certainly Not the Doctors." It consisted, as stated in the first paragraph, of remarks of Dr. Harry M. Hall delivered at the annual conference of Secretaries and Editors held in Chicago, November, 1929, and published in the A. M. A. Bulletin. The first column was Dr. Hall's now well known remarks concerning his opinion of the irresponsibility of doctors for poverty and therefore, by implication, for the care of the poor when sick. The second column, beginning "The Industrialization of America," etc., which also was included in the quotation was not a part of Dr. Hall's remarks but was the essential part of an original editorial published in the July issue of the *St. Clair County Medical Society Bulletin*.

We hope that through these columns the mistake may be corrected as we feel that Dr. Hall may be embarrassed by our remarks, incorrectly attributed to him, which were meant actually to take issue with his implied attitude of irresponsibility for the poor when sick.

We maintain that since doctors have through all time assumed the responsibility for the care of all the sick, we must seriously and quietly attempt a solution of the increasing problem of sickness today without protest if we are not to invite more extensive encroachment by the state into the practice of medicine.

Any other attitude would seem to lower medical service to the status of a commodity. If "our philanthropy was really the cause of our undoing" and if all the people are to be adequately cared for, a goal for which we dare not fail to strive, then state medicine to serve the great masses is inevitable.

JAMES J. DONAHUE, M. D.,
Editor, St. Clair Co. Medical Bulletin.

BLOODLESS CHILDBIRTH

Eldorado, Ill., Aug. 6, 1930.

To the Editor: There has been quite a lot of discussion in regard to bloodless childbirths, and I wish to report that on July 30, 1930, I delivered a child for a multipara, it being her 6th child and there was not a drop of blood except from the cutting of the cord and there was not any blood at any time during the puerperium and the mother was up on the 5th day when I was back to see her and has had no untoward symptoms of any kind. I can furnish sworn evidence of this fact by two witnesses.

A. H. BELTZ, M. D.

YE PEDIATRICIANS, ATTENTION!

THE MODERN BABY

"The hand that rocks the cradle"—but there is no such hand.

It is bad to rock the baby, they would have us understand;

So the cradle's but a relic of the former foolish days,
When mothers reared their children in unscientific ways.
When they jounced them and they bounced them, these
poor dwarfs of long ago—

The Washingtons and Jeffersons and Adamses, you know.

They warn us that the baby will possess a muddled brain

If we dandle him or rock him—we must carefully refrain;

He must lie in one position, never swayed and never swung,

Or his chance to grow to greatness will be blasted while he's young.

Ah! to think how they were ruined by their mothers long ago—

The Franklins and the Putnams and the Hamiltons, you know.

Then we must feed the baby by the schedule that is made,

And the food that he is given must be measured out or weighed.

He may bellow to inform us that he isn't satisfied,
But he couldn't grow to greatness if his wants were all supplied.

Think how foolish nursing stunted those poor weaklings, long ago—

The Shakespeares and the Luthers and the Bonapartes, you know.

We are given a great mission, we are here today, on earth

To bring forth a race of giants, and to guard them from their birth.

To insist upon their freedom from the rocking that was bad

For our parents and their parents, scrambling all the brains they had.

Ah! If they'd been fed by schedule would have they been stunted so?

The Websters and the Lincolns and the Roosevelts, you know.

—Bishop Doane.

WHAT THE GREAT DOCTOR MUST KNOW

The great doctor must know almost as much about the social order as the sociologist. This is necessary because the varied forces—political, social, economic, industrial, educational, religious—that march across a nation, making its mind or marring its spirit—register their effects in the lives of the doctor's patients. The more the doctor knows about these forces that make the atmosphere in which men's minds and bodies live, the more intelligently can he trace effects to their causes, and the more wisely can he counsel his patients.

The great doctor must know almost as much about the mind as the psychologist. This is necessary because even the most materialistic scientist admits that there is a subtle relationship between mind and body that the doctor of the body dare not overlook, for when he does overlook this relationship a thousand quacks rush in to capitalize his oversight.

The great doctor must know as much about the subtle art of counselling as the priest.

The great doctor must refuse to be party to the ironic paradox of commercializing a profession just when the professionalization of commerce begins to dawn.

The great doctor must decline to tear his specialism out of the living texture of the whole medical fabric. He will not allow the noble science of surgery, for instance, to degenerate into a merely higher carpentry.

And, finally, the great doctor must be able to distinguish between Hippocratic ethics and hypocritical etiquette in matters professional.—Glenn Frank, President, The University of Wisconsin, in Surgery Gynecology and Obstetrics.

A SPINE SONG

(To be sung to the Good Old Pre-War Tune)

Call a doctor in the night time

If your pulse is acting queer,

For with him it's just the right time

To remove your leg or ear.

(Chorus)

For it's always fair weather

When Specialists get together,

With your lungs full of ether

And your fam'ly full of fear.

Oh, it's always fair weather

When Specialists get together,

With a spine on the table

And a good saw ringing clear.

J. S. in Life,

Original Articles

THE HEALTH DEPARTMENT AND THE PRACTICING PHYSICIAN*

HAROLD M. CAMP, M. D.,
MONMOUTH, ILL.

There is probably no subject in Medicine which has been presented more frequently before the public health groups or which has been discussed more thoroughly than the relationship which should exist between the practicing physician and his health department. We could say that the proper relationship should be a thorough co-operation between these agencies, for each is dependent on the other for their proper function and close the discussion, but perhaps it might be well at this time to briefly discuss some of the economic phases of this relationship. We are all agreed that the closest type of cooperation should exist, but there is occasionally a question as to whether or not we actually practice this tenet as thoroughly as we talk it. The very fact that a discussion can be raised on the subject of the relationship between the health officer and practicing physicians suggests that this relation stands upon different ground than that of doctor to doctor. A well defined code of ethics describes the proper and honorable attitude that one physician may adopt toward another, but the health officer appeared on the scene long after the code of ethics had become a traditional heritage. The adaptation of physicians to this newer phase of health work has naturally varied in different communities, from friction in some to the most complete harmony in others.

This fact naturally suggests that some misunderstandings have arisen and that perhaps neither side in the controversy has taken the proper steps to iron them out satisfactorily. That there should be universal harmony between these important health agencies, no one can deny.

It is the function of both the health officer and the health worker to make people dissatisfied with prevailing health conditions and instil in them an active desire to improve these conditions.

The medical profession and all allied professions must do the necessary medical work which will bring about improvements in individual

and public health. These improvements, if made, demand a united effort on the part of both the public health officials and the medical profession at large. In order that we may show the citizens that they should no longer be satisfied with prevailing health conditions we should have definite and concrete evidence that our economic losses are greater than they should be and we should convince them that we have available a program which will significantly reduce the losses and increase the economic well being of the community. In order that the medical profession may be properly stimulated to do their part in this program, the program itself must not encroach upon the legitimate practice of medicine.

It is necessary that exact information relative to the prevalence of contagious or notifiable disease be at hand, to carry out the necessary educational work to improve health conditions. The health officials must depend on the medical profession for this information in the way of promptly reporting all such cases as early as the exact diagnosis is made. Recent surveys show that in certain counties in Illinois there is a distinct shortcoming on the part of physicians in the furnishing of this information, which naturally reflects no credit on the profession. If the health officer has complete and accurate records, he will be in a position to suggest a program for improvement and demonstrate its actual value to our citizens. Unfortunately there is not a uniform type of health department in our various communities.

When we think of health departments, we think in terms of the Federal Government, the State and the municipality. In our own State, although we have some 2,300 health officers, only a few are actually graduates in medicine and capable of caring for public health problems.

According to the Surgeon General of the United States Public Health Service, the Federal Department is interested chiefly in the care of seamen in its services, those of its personnel injured or ill in the line of duty, with such functions as quarantine, immigration and services rendered to States requesting it and the control of biologic products.

The State Department of Health in its activities varies in different States. In Illinois, according to the director of the Department of

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Public Health, the principal aims of the Department are:

1. To study the diseases from which people are suffering and the cause from which they are dying.

2. To keep abreast of Medical Science concerning the best methods of conservation of health and lives.

3. To acquaint the medical profession of the important health problems of their various communities and suggest what in their opinion is the best method of solving them and render to the medical profession all possible assistance with the aid of the State laboratory and the personnel of the department.

4. To carry on an educational campaign in all lines of preventive medicine, this information to be disseminated by means of the public press, periodicals, circulars and by public addresses to lay groups where such information can do the most good.

5. To try to co-ordinate the activities of the Department of Health, the medical profession, the dental profession and other professional and lay groups so that the most good can be accomplished toward the conservation of health and life.

The city health departments vary from highly organized departments endeavoring to care for the various phases of preventive medicine to those merely attempting to control communicable diseases, water and food supplies and improve sanitary conditions in their respective communities.

Unfortunately the rural health service consists principally in tacking up quarantine cards when a physician reports the presence of the disease to the township supervisor.

The success of programs undertaken by health departments depends largely on the type of executive officer at the head of the department and on the type of cooperation which is given by the medical profession. There seems to be no question today, that the one responsible for the successful operation of a well organized health department should be a graduate in medicine and preferably he should have had several years' experience in practice before assuming the role of health officer to better enable him to increase the efficiency of the department and to get a greater cooperation from the medical profession.

Public health work is not a separate profession, as many still believe it to be, but is a specialty in medicine and should be considered along with the other specialties. This fact is well recognized by our medical societies, in having a special section for public health and hygiene discussions. It is decidedly important and necessary that the public continue and even increase its interest in health problems for this consideration on the part of the public makes the work easier and more efficient and increases the cooperative spirit. The health department and the medical profession are equally responsible for a continuation of this educational work, which can not do other than bear fruit in the way of minimizing disease. The physician should always be an educator and consider his type of education equally important with all other forms of education.

The work of the Educational Committee of the Illinois State Medical Society has increased each year and shows the readiness of people today for this type of service.

The medical profession has been accused of thinking only in terms of therapeutics rather than in disease prevention and today it is well known that one is as important as the other.

There should be no material difference between the educational work done by the health department and that done by the physician and the most efficient work can be done when both work together, this, too, diminishing any overlapping of service.

When the health department officials and the profession at large get together on important programs, there is no reason why there should be any animosities on either side and so long as we have cooperative physicians managing the activities of our health departments and our physicians are willing to do their part, there should be no dissension whatever. Our people today want better health for themselves and their families and they naturally look to professionally trained men and women for their guidance. All physicians by virtue of their training and practice should be interested in all phases of public health work, although it is probably a fact, that of all scientific articles published in our medical journals, the average physician will pass up more articles on this subject than any other. This should not be the case and in this age when we are considering medical economics as never

before, we should be thoroughly interested in all work pertaining to an improvement in our public health.

The principles of public health should be taught more thoroughly in our medical schools and then practiced in every day life by our graduates. The old distinction frequently made that physicians are to cure disease, while public health workers should prevent disease, should no longer stand, for there is no doubt that preventive medicine is as important to the practitioner of medicine as curative medicine.

The great reduction in disease mortality has been largely in those diseases against which we have definite measures of control or prevention and a much greater reduction can be made in the mortality statistics of such diseases as diphtheria and typhoid fever, when we have a more concerted effort on the part of health departments and medical men in general to educate the laity as to the positive means of eradicating these diseases through a general use of toxin-antitoxin on the one hand and typhoid vaccine on the other. The disgraceful picture of smallpox in Illinois, due to a general laxity in being vaccinated, is to be deplored.

This in part, no doubt, is due to the propaganda emanating from the anti-vaccinationists with their false claims as to the ill effects of vaccination and it is a subject which every health department and every physician should be interested in.

The propagandists tell people that their constitutional rights should not be hampered, which no one doubts, but smallpox is a disease which can be had or can be avoided according to the wishes of each individual. It is a man's right to be sick, if he so desires, provided he does not interfere with the health and rights of others, who may not believe as he does. No man has the right to cause the development of a preventable disease in others, because he does not believe in its prevention.

It is quite probable that if the word compulsory was left out of our discussions on the smallpox situation, especially in connection with vaccination, much of the prejudice now prevailing against it would be eliminated.

This is work which both the health department and the physician in practice can do jointly.

The health department should urge people to

have periodic health examinations, or examinations of the apparently well, while the physician should not only favor and do the actual work, but he should have his own periodic examinations, for statistics show that the mortality rate among physicians is actually higher than that among many other professions, cardiac and vascular diseases leading the list of causes of death.

In our consideration of this highly important subject, we should not overlook the valuable assistance that can be obtained through many of the lay organizations interested in some phases of health work, in a cooperative way, such as the Parent Teachers Association, Women's Clubs and others. They can do much in an educational way and they are, in many instances, anxious to help.

We should not limit this important preventive medicine service to the mere routine work, telling the one examined that he is in perfect health, or that he has certain inpairments, but we should tell him what he should do to continue enjoying good health and when inpairments are found, we should give all possible advice and assistance so that he may in spite of his handicaps increase his span of life as much as possible.

One function of our health department is the collection and filing of death certificates. There seems to be no doubt that the opinion that the maternal death rate incident to childbirth is higher in this country than in most civilized countries is still prevalent. This may be due, in part, to the fact that our methods of signing death certificates in those cases where pregnancy is merely coincidental, are different from those reported in other countries. On the other hand, there may be a considerable laxity on the part of many physicians in signing death certificates in naming childbirth as the actual cause of death, instead of it merely being a contributing or coincidental factor. It is quite important that we give this matter a more serious consideration and the health department can aid the physician materially in this regard by giving more definite rules for the physicians' guidance.

Formerly medical society meetings were principally a gathering together of medical men to hear and discuss papers on medical subjects and to enjoy the fellowship that such meetings afford, but today we have many economic and civic functions to perform and the medical societies

should be acutely interested in all problems confronting other citizens. Public health, although primarily a public problem, must be worked out by those educated to consider health problems and they should always be worked out under professional guidance. Every organized health agency should be dominated in program and in administration by medically trained people. In our smaller communities without adequate departmental service, or guidance, they should be under the guidance of county medical societies, in order that most may be accomplished. Our county medical societies in arranging their programs should remember the various phases of public health work and have speakers from time to time capable of best presenting these subjects before the societies. Our Educational Committee has received a considerable number of calls the past few years, for speakers on these subjects and the meetings so arranged have been highly interesting and have had a tendency to increase the friendly relationship between societies and the health workers.

The Illinois State Medical Society was largely responsible for the establishment of a State Health Department some fifty-three years ago and there is no reason why all medical men should not be interested in all of the Department's activities today.

Education, from the physicians as individuals, as medical societies and as health officials is the keynote of the situation, when it comes to a further reduction or entire elimination of many infectious and contagious diseases.

The interests of the medical profession, the health departments and the public are largely the same. In his proper place, the health officer, by the information given to the public, makes the individuals and the communities discontent with present health conditions. The medical profession supplies the machinery for improving the conditions which creates the dissatisfaction. With these principles in mind, there should be no difficulty in working out programs which could be presented to the public with the united support of both the medical profession and the health officials. These two agencies working solidly together can give to Illinois and each of its counties a health and medical service which will curtail quackery and exploitation to a maximum degree and which

will bring to the public the greatest degree of physical and economic well being.

DISCUSSION

Dr. A. A. Crooks, Peoria: I don't know whenever before it has been the good fortune of this Section to have heard an expose of this subject presented quite so well as Dr. Camp has done this. I believe it can only come from the rare and rich experience of Dr. Camp. There should be no friction, there should never have been any friction, should never have been any distinction existing between the medical health officer and the practicing physician.

One important thing, I think, Dr. Camp has brought out in view of our present situation in Illinois is the matter of one word—compulsory. Its elimination, as suggested by Dr. Camp, I believe, spells the difference between success and failure in our proposed legislation before the coming legislature. Each and every one of us present, I am sure, are apprised of the fact that our present Commissioner of Health, Dr. Andy Hall, will strive to put through a bill making the matter of vaccination a compulsory proposition. But I don't like the word and I think that the average American dislikes the word "compulsory." If we could circumvent that by some more adroit phraseology, I believe the time is here, in view our past three years' experience in the State of Illinois to achieve such legislation. Of course, none of us are proud of our shameful smallpox record and the time has arrived when we possibly have the best chance of putting over this type of legislation that we have ever had.

Dr. Charles H. Miller, Chicago: It may be of interest to you members of this Section if I would recount how nicely the profession of Chicago is cooperating not only with the health department but also with other civic bodies, a large proportion of whose activities relate to public health. Cook county is divided geographically into fifteen branches each with its officer and have elected a member from among themselves to what is called the advisory committee to the health commissioner. This commissioner with this advisory committee meets regularly at least once a month; recently about every two weeks, and sometimes as often as once a week. We have been putting on a campaign up there to immunize our children against diphtheria, holding out as a goal to be reached the experience of Grand Rapids and Tacoma, which cities had been accustomed to a death rate of about eighteen per thousand from diphtheria and abolished it in 1928. The methods adopted were thought out in the health commissioner's office with this advisory committee. We canvassed the papers of Chicago and tried to get them to help us. One gave us four full-page advertisements and provided us with 600,000 copies of this advertisement, which was published to instruct the people of Chicago and one of these was given to every school child in the city. In the round-up for pre-school children entering school next Fall, the health commissioner with a number of these men from the medical profession upon invitation went to the Women's City Club,

which is considering this problem, and we had a most satisfactory interview with them, guiding them in a way that would prevent friction between their efforts and the medical profession of Chicago. This is the first time in my experience now extending back over thirty years when we had the same excellent fraternal feeling between the medical profession and the health department because of the very fraternal spirit which is exhibited by the present health commissioner. He is just the man that we think we would like. There is no end of opportunity for collaboration among all these various civic bodies, and we are now holding in Chicago a Health and Educational Exposition, the broadest in its scope and to me the most successful from the point of results of any we have ever had. It is the result of coördinated activity between the Chicago Department of Health, the Chicago Medical Society and every civic organization in the city, the Association of Commerce, Board of Education and what not. There are no exceptions. Such results as may be expected from such coördination of effort will be to reduce our morbidity and our mortality.

Dr. Harold M. Camp (closing the discussion): I haven't anything to add.

UROSELECTAN IN INTRAVENOUS- UROGRAPHY

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CHICAGO.

After several attempts, both in Europe and this country, to discover a suitable urographic medium for intravenous injection, in November, 1929, uroselectan was first evolved. This preparation was a modification of Selectan-neutral introduced by Professor Binz and Dr. R  th, who were advocating the use of the latter as a medicament in cholecystitis and cholangitis, and which was indirectly discovered to be demonstrable, upon roentgen examination, being excreted by the urinary tract. Selectan-neutral, given intravenously, produced excellent urograms, but the by-effects of headache, malaise, nausea, and vomiting inhibited its use and made it desirable to modify the preparation. Better tolerance and increased solubility were sought in order to obtain both a better concentration in the urine and a lesser degree of toxicity.

Dr. Swick, working at Professor Lichtwitz's clinic, with the assistance of Professor Binz and Dr. R  th finally succeeded in modifying its molecular structure by displacing a methyl group with sodium glycin, and found both of the requirements satisfactory, namely, decreased tox-

icity and increased solubility. This substance was given the name uroselectan, apparently because of its selective affinity for the urinary tract. Its practicability was next ascertained at von Lichtenberg's clinic in Berlin, and offered to the medical world.

Uroselectan contains 42 per cent. of iodine, is neutral in reaction, and is soluble in water up to and above 50 per cent. The iodine content is in an organically bound, stable form, and is kept in solution. The substance is excreted through the renal parenchyma, and, in normally functioning kidneys with no obstruction, close to 100 per cent. is recovered in the urine at the end of 8 hours in its unaltered state, the maximum concentration usually occurring 30 minutes after the injection and the greatest excretion taking place within the first 2 hours. Its administration is very well tolerated and apparently entails no after-effects, other than those recorded at the time of injection. Examination of the blood 15 minutes after injection fails to reveal its presence in the circulatory system.

With its advent, urology has marked another epoch-making advance in the field of medicine. By its further clinical application and study there remains no doubt of its vast importance, particularly in cases in which cystoscopy and ureteral catheterization are either contra-indicated because of the risk involved, or altogether impossible.

One does not easily forget the cases in which cystoscopy and ureteral catheterization were found to be unsatisfactory, most difficult, or accompanied by considerable risk, no matter to what degree of perfection the urologist laid claim. Particularly in bladders distorted by disease, where the ureteric orifices persist in their peculiar way of remaining invisible, even with the employment of a dye, or where the catheter refuses to advance within the orifice, regardless of the amount of manipulation by the operator, not to mention the minor annoyances of small meatus, urethral stricture, prostatic obstruction, hypersensitive patient, and numerous other causes, is the intravenous method of distinct advantage.

Hitherto, when these objections were encountered, urography was practically impossible, but with intravenous pyelo-ureterography these obstacles no longer inhibit satisfactory visual-

ization of the urinary tract. Is this then, alone, not sufficient to proclaim its importance! And yet, its possibilities have by no means been exhausted, especially with further improvement in interpretation and perfection in administration.

The recommended dosage is as tabulated below:

Infants and young children.....	20 c.c. of a 40 per cent. solution
Children up to 6 years.....	40 c.c. of a 40 per cent. solution
Children up to 12 years.....	60 c.c. of a 40 per cent. solution
Adults	100 c.c. of a 40 per cent. solution

Successful urography with uroselectan depends upon the selective affinity of the renal parenchyma for the substance and its ability to excrete it. Where the concentration is satisfactory, visualization of the kidneys, ureters, and

bladder occurs, while in cases in which there is impaired function or retarded excretion with poor concentration, its advantageous use as a photographic medium is diminished. Function may be normal and yet excretion delayed due to mechanical obstruction. This condition may be either permanent as in prostatic hypertrophy without infection, or transitory, due to edema caused by an acute infection, which later subsides. Concentration may or may not be sufficient to permit satisfactory roentgenograms. In some cases excretion may be prolonged over a period of hours or even weeks, and concentration never great enough to render a satisfactory urogram.

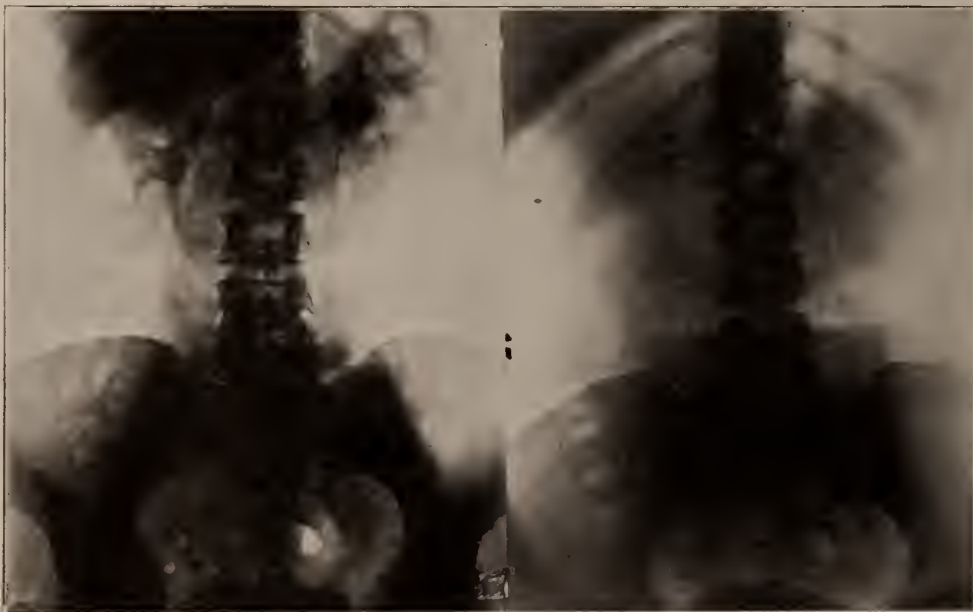


Fig. 1

Fig. 1. Case 1, E. R., female, aged 27. Chief complaint: Marked tenderness and pain over right lumbar region; six months' duration. Cystoscopic findings were negative; catheters passed up into both pelves without any difficulty.

Pyeloscopy: Both kidneys functioning normally.

Urogram: RIGHT SIDE: Kidney visibility fair; the outline indicates a normal size, shape, and position. Opaque filling; visibility fair. Completeness of filling: Buds visible, slightly rounded. Urinary passages regular, pelvis medium size, satisfactory shape. Continuous with ureter tapering, ureter not well filled in middle portion.

LEFT SIDE: Kidney visibility, fair; lower pole lateral margin. Normal size, shape and position. Urinary passages well filled including buds, tend toward spike outline. Square pelvis, seems somewhat distended, abrupt junction with ureter, latter normal diameters. Middle section of ureter not visible. Bladder partly filled.

RESUME: Roentgenologically within the normal, a slight left hydronephrosis is suggested.

Fig. 2

Fig. 2. Case 2., S. L., female, aged 26. Chief complaint: urinary frequency; four months' duration. Cystoscopic findings were negative; catheters passed up into both pelves without any difficulty.

Pyeloscopy: Both kidneys functioning normally.

Urogram: RIGHT SIDE: Kidney visibility, almost complete circumference seen, transverse diameter a little in excess compared to longitudinal diameter; location; lower pole almost reaches crest of ilium. Opaque filling: visibility fair; a typical filling of renal passages; calyces distorted, seemingly crowded together, termini not well seen. Apparently lower main calyx not filled. Pelvic area: small, rather abrupt renal ureteral junction. Ureter well visible to pelvic portion. Normal diameters.

LEFT SIDE: Complete circumference visible, normal size, shape and position. Opaque filling: Apparently incomplete. Small pelvis, termini difficult to be seen, and pelvis small, tapering, continuous with ureter of normal diameters, seen to middle third.

RESUME: Atypical pelves, strongly suggest pathology on right, indeterminate on left. Moderate degree of ptosis on right.

Where the use of uroselectan is feasible, anatomical configuration, as well as function may be demonstrated. It is valuable in studying the dynamics of the urinary passages, the observation being carried on through the fluoroscope. This method has been particularly well developed at Professor Legueu's clinic in Paris, where pyeloscopy is the usual procedure, and graphic representation is executed by drawings. Only occasionally is a roentgenogram taken. It is an ideal method for studying the differences in emptying time of the renal pelvis and ureters, and, is especially adaptable in the diagnosis of ureteral spasms, strictures, and kinks, as actual visualization of function is performed.

Under the indications for intravenous urography all cases would be classified in which

cystoscopy, ureteral catheterization and direct urography are impossible or contra-indicated on account of the general condition of the patient, or because of anatomical or pathological reasons. These might be listed as follows:

1. Urethral
 - (a) Small meatus
 - (b) Small urethra
 - (c) Acute infection
 - (d) Stricture
 - (e) Tumor
 - (f) Prostatic obstruction
 - (g) Severe hemorrhage
 - (h) Urosepsis
2. Bladder
 - (a) Severe hemorrhage
 - (b) Extravesicle pathology, distorting anatomy
 - (c) Invisible ureteric orifices on account of,
 - (1) Infection
 - (2) Tumor



Fig. 3



Fig. 4

Fig. 3. Case 3, H. B., male, aged 53. Chief complaint: Dysuria and frequency of six months' duration. Pyeloscopy: Function of both kidneys somewhat retarded.

Urogram. RIGHT SIDE: Kidney outline: periphery seen, lower pole sweeping toward median line. Kidney area seems enlarged. Normal position. Opaque filling: abnormal. Major and minor calyces not recognizable as such. Renal pelvis not seen. One film of series shows lead-off to ureter on lateral side, apparently vagrant ureter recognized as far as crest of ilium. Normal diameters.

LEFT SIDE: Kidney outline difficult to visualize, faintly seen, much smaller than right. Upper pole plainly visible. Opaque filling very poor and decidedly abnormal. Usual outlines not recognizable. Ureter not seen.

RESUME: Pathological kidneys, possibly congenital, fused, or horseshoe kidneys.

Fig. 4. Case 4, E. W., male, aged 62. Chief complaint: Frequency and nocturia, two years' duration. Pyeloscopy: Both kidneys functioning normally.

Urogram: RIGHT SIDE: Somewhat irregular outline, periphery and lower pole. Opaque filling shows elongated, narrow pelvis and major calyces; termini fairly good, showing spikes or thorns. Slender, tapering pelvis continuing with ureter but latter shows lack of straight course to bladder.

LEFT SIDE: Kidney outline, lower half showing satisfactory but small outline. Opaque filling good in upper portion, blunt in middle portion, no lower portion. Renal pelvis, normal shape, tapering continuous with ureter, seen as far as middle third.

RESUME: Narrowed urinary passages on right suggest inflammatory process encroaching upon same. Could be congenital variation. Left kidney probably normal.

- (d) Malformation
- 3. Ureter
 - (a) Absence
 - (b) Malformation
 - (c) Malposition
 - (d) Implantation into bowel
 - (e) Impaction of calculus
 - (f) Severe bilateral infection
 - (g) Tumor
 - (h) Stricture, impassable
 - (i) Kink
- 4. Kidney
 - (a) Solitary
 - (b) Polycystic
- 5. General
 - (a) Inflammatory condition of adnexa
 - (b) Manipulation followed by severe reaction

- (c) Hypersensitive patient
- (d) Very young children and infants
- (e) Patient who will not co-operate

Contra-indications to intravenous urography would be all cases in which renal function is impaired to such a degree that excretion is seriously retarded or concentration hindered.

1. Hyoplasia
2. Advanced renal tumor
3. Pyonephrosis
4. Nephritis and severe nephrosis
5. Severely infected occluded kidney
6. Complete retention of urine either due to
 - (a) Impacted calculus
 - (b) Tumor
 - (c) Foreign body, blood clot, or tumor tissue



Fig. 5

Fig. 5. Case 5, G. F., male, aged 52. Chief complaint: Frequency and nocturia; seven months' duration. Urethral stricture operated upon 30 years ago.

Pyeloscopy: Both kidneys functioning normally.

Urogram: RIGHT SIDE: The kidney outline plainly visible in entire circumference. Kidney slightly smaller than normal. Normal position. Opaque filling, unusual. Major calyces probably pointing forward and backward. Give no lateral outlines. No renal pelvis but direct narrow diameters from middle of renal filling through, passing around in a curve toward median line, then is lost.

LEFT SIDE: Kidney outline seen in lower half, indicates considerable enlargement and marked increased roundness, usual position. Renal filling scattered, does not seem to be connected directly or continuously with upper part of ureter. Renal pelvis not recognized. Opaque material in termini which seems dilated or distorted. Upper portion of ureter of satisfactory diameters to bladder.

RESUME: Evidence of bilateral pathology. Right kidney probably turned, upper ureter seems displaced by a tumor mass or cyst. Latter may be a part of

Fig. 6

lower half of kidney. Left side, intrinsic renal pathology such as polycystic kidney, etc.

Fig. 6. Case 6, G. S., male, aged 53. Chief complaint: Hematuria, and pain on urination, three years' duration. Anuria relieved by hot packs. Calculus removed from bladder 30 years ago.

Pyeloscopy: Function on both sides slightly retarded.

Urogram: RIGHT SIDE: Kidney outline seen only in part, indicating kidney of small size. Normal position. Opaque filling shows satisfactory renal pelvis, major and minor calyces not well filled. Latter seem irregular. Pelvis tapers into ureter, seen to third lumbar. High grade arterio-sclerosis of pelvis vessels noted.

LEFT SIDE: Renal outline plainly visible, lower two-thirds. Fairly regular, of satisfactory size and position. Opaque filling outlines urinary passages much too small, for size of kidney. Termini not well filled. Hardly discernible. Small pelvis, tapering continuous with ureter as far as fourth lumbar.

RESUME: Disproportion of cortex of left kidney to urinary passages suggestive of change but may be congenital variation. Right kidney probably normal, but tuberculosis to be considered.

7. Severe cardiac insufficiency
8. Prostatic hypertrophy, with severe degree of infection and retention
9. Where instrumentation or medication are desirable, as well as interpretation of function and pyelography

The Technic of Intravenous Pyelography with Uroselectan

The simplicity of preparation and administration recommends the employment of uroselectan as a medium for urologic roentgenography.

Its preparation is accomplished by dissolving the contents of a package (40 grams) in 110 c.c. of doubly distilled water, the constant stirring of the solution greatly facilitating its solubility. The solution, which assumes a yellowish tinge,

is next filtered and heated to boiling and kept at this point for 20 minutes. After this the preparation is cooled to body temperature, the volume having been reduced to 100 c.c. of a 40 per cent. solution, when it is ready for injection.

Injection of the solution into the cubital vein may be made by either the gravity method or by the syringe. Some prefer to divide the dosage into two parts, injecting 50 c.c. into one arm, waiting from 3 to 5 minutes, and then administering the remaining 50 c.c. into the other arm. This, however, we have found unnecessary if the solution is injected slowly (15 to 30 minutes).

Oral administration has been attempted but discarded because of the frequent occurrence of



Fig. 7

Fig. 8

Fig. 7. Case 7, J. S., male, aged 50. Chief complaint: Frequency and burning on urination; occasional hematuria; six months' duration.

Pyeloscopy: Both kidneys functioning normally.

Urogram: RIGHT SIDE: Lower two-thirds of kidney plainly visible. Upper pole not on the film. Opaque filling dimly seen, narrowed passages, including pelvis which is very small. Ureter tapers, continuous with rather large but uniform diameters of upper third. Increases in diameter in middle third.

LEFT SIDE: Kidney outline difficult to see, not definitely visible. Apparently somewhat enlarged. Opaque filling rather dim but shows regular proportions of renal passages and termini. Somewhat angulated pyelo-ureteral junction. Ureteral shadow fades out at third lumbar but becomes visible below sacroiliac arch to bladder.

RESUME: No definite pathology indicated.

Fig. 8. Case 8, M. B., male, aged 30. Chief complaint: Incontinence. (Neurological diagnosis multiple sclerosis.)

Pyeloscopy: Both kidneys functioning normally.

Urogram: RIGHT SIDE: Elongated kidney seen in entire circumference. Overlying gas in distended colon and gastric ventricle interferes somewhat. Position of kidney a little lower than normal. Opaque filling shows satisfactory pelvis, major, minor calyces and termini, exception upper pole, possibly supplementary calyces. Kink in ureter in upper third, sharply flexed upwards and inwards and again showing sharp change in direction downward in course of normal ureter. Diameters fairly regular but show certain variations.

LEFT SIDE: Entire circumference seen outlining elongated kidney in normal position. Opaque filling substantially same character as opposite side. Change in direction of course of upper ureter below which becomes normal and shows variations in diameters in lower portion.

RESUME: No renal pathology, ureteral kinks (?), inflammatory changes in ureters, lower portions (?). Right kidney shows low grade hydronephrosis.

headache, malaise, nausea and vomiting in patients with renal disease. The rectal route may be employed, but is not as satisfactory as the intravenous method, according to Swick.

The preparation of the patient for the urogram is performed in the usual manner. The bladder is emptied prior to injection, a preliminary x-ray film being taken at this time, if so desired. The injection is now begun, at the end of which the patient is placed under the fluoroscope. Here the function as well as the configuration of the kidney pelvis and ureters, and the time of the appearance of the drug and its best concentration are observed after which a roentgenogram is taken. In some cases the substance is visualized within 5 minutes after the

injection has been given. In Legueu's clinic in Paris they have a special x-ray apparatus constructed so that while pyeloscopy is being done a urogram may be taken on the same table, at any second one wishes to record the action of the urologic tract graphically. In most cases an interval of 20 minutes is sufficient time for the first exposure, which is followed by a second film 20 minutes later, and still another at the end of one hour after the injection has been completed. The patient is permitted to void at the end of the second exposure in order to better visualize the lower end of the ureters and bladder.

If the visualization is complete after the first three exposures no further x-rays are necessary.



Fig. 9

Fig. 10

Fig. 9. Case 9, B. R., female, aged 33. Chief complaint: Recurrent attacks of renal colic, frequency and nocturia; four years' duration.

Pyeloscopy: Both kidneys functioning normally.

Urogram: RIGHT SIDE: Renal outline plainly visible in entire circumference. Upper lateral surface seemingly flattened by lower margin of liver. Normal size, slightly lowered position. Renal filling suggests dilated pelvis but kidney lies at a turned angle. Lower main calyx shows larger diameter than middle and upper. Renal termini normal. Renal pelvis unusual because of angle of kidney. Apparently normal ureter.

LEFT SIDE: Only upper pole of kidney recognized. Normal position. Opaque filling satisfactory. Major and minor calyces and termini not unusual except middle one which is blunt. Ureter seen to fourth lumbar. Normal diameters.

RESUME: No pathology suggested.

Fig. 10. Case 10, E. G., male, aged 62. Chief com-

plaint: Recurrent attacks of ureteral colic on left side; passed gravel three months ago. Colic unrelieved by morphin sulphate gr. $\frac{1}{4}$, but disappeared on injection of uroselectan.

Pyeloscopy: Function somewhat retarded on left side.

Urogram: RIGHT SIDE: Kidney outline easily recognizable showing stubby type with irregular shallow scallops. Position good. Opaque filling fairly dense. Shows normal termini and urinary passages, medium size to pelvis, tapering continuous with apparently normal ureter.

LEFT SIDE: Kidney outline not recognized. Opaque filling very poor, shows only lowermost portion of renal pelvis continuous with ureter of normal diameters and position to bladder.

RESUME: Significance of irregular surface of kidney questionable. Passages fairly normal. Non-visibility of left renal passages not explained.

Should function be impaired or excretion retarded the pelvis and ureters may be visualized very faintly, or not at all, even after many hours.

The x-ray technic is that usually employed in roentgenography of the urinary tract.

During the injection of the preparation, several patients complained of pain, dull in character, at the site of the injection, which was referred to the shoulder on the same side, and which gradually disappeared; sensations of heat and throbbing in the head were also noted. Occasionally there was paresthesia of the finger tips, dryness and severe thirst. Also, almost all of the patients noticed an urgent desire to mictur-

ate preceded by a bearing down sensation and heat over the bladder and genital regions. The symptoms of nausea, vomiting, collapse and iodism were not observed in any of the patients.

While there is no doubt that the employment of uroselectan will prove of great value in selected cases, we do not, however, feel that cystoscopy and ureteral catheterization will decrease in importance. There still remains considerable information to be obtained from cystoscopy, with the actual visualization of the changes which occur in the mucosa of the bladder, secondary to pathology in the upper urinary tract. In fact, some diagnoses are almost entirely based upon



Fig. 11

Fig. 11. Case 11, J. F., male, aged 48. Chief complaint: Frequency, hematuria, and dysuria. Gonorrhea 25 years ago, followed by urethral stricture. Multiple perineal fistulae. Cystoscopy reveals papillary carcinoma of bladder involving trigone. Extensive edema, and infection present. Unable to visualize ureteric orifices.

Pyeloscopy: Normally functioning kidneys.

Urogram: RIGHT SIDE: Kidney outline not recognized. Opaque filling very unsatisfactory. Usual outlines missing. Appears like dilated lower part of renal pelvis. General enlargement of entire ureter, also increase of length in lower portion, causing doubling upon itself.

LEFT SIDE: Lower half of kidney outline plainly visible. Seems small for this size of patient. Position satisfactory. Opaque filling decidedly irregular but termini and minor calyces well shown. Major calyces seem greatly dilated and cannot be well differentiated from the enlarged renal pelvis. Enlargement continues downward into upper portion of ureter which is prob-

Fig. 12

ably enlarged throughout its length as the lower portion, which is visible, seems greatly increased.

RESUME: Pathology indicated on both sides; bilateral hydro-ureter, hydronephrosis.

Fig. 12. Case 12, J. H., male, aged 60. Chief complaint: Acute retention following period of frequency and dysuria.

Pyeloscopy: Both kidneys functioning normally.

Urogram: RIGHT SIDE: Kidney outline plainly visible, satisfactory size, shape and position. Renal filling, fair. Opaque filling satisfactory in upper and middle calyces. Not so well shown in lower passages. Renal pelvis smooth and regular. Tapering continuous with ureter. Followed to lower lumbar.

LEFT SIDE: Entire circumference well shown. Slightly less regular or reniform in shape than usual. Opaque filling does not disclose the entire urinary passages. Apparently shrunken calyces and renal pelvis, continuous with ureter of normal course and diameters.

RESUME: Unsatisfactory filling makes interpretation difficult. Probably normal.

the impression one receives through observation of the bladder and the ureteric orifices, together with ureteral catheterization, even before the pathologic alterations are demonstrable on the pyelogram.

Important information regarding function and anatomical configuration of the urinary tract may be elicited with intravenous urography. Yet, cystoscopy and ureteral catheterization, to discern the source of blood, pus and organisms, must be resorted to. Also, segregation of the urine and information relative to the sound kidney must be obtained before one can decide on the removal of its pathologic mate.

Unfortunately, where we would particularly benefit by its use, as in cases of advanced renal tumor, tuberculosis, pyonephrosis and others, we find it of little value because of impaired renal function and diminished excretion. Its administration in cases of suspected ureteral calculi is not quite as beneficial as the introduction of a catheter. The sensation perceived on meeting the obstructing object greatly facilitates the diagnosis. Catheter pyelo-ureterography, as well as dilatation and the injection of oil may be performed simultaneously. Should there be a great deal of retention and infection, uroselectan may even fail to cast a shadow.

In ureterography, where the introduction of a ureteral catheter and forcible distention may cause pain and distortion with the obliteration of diagnostic essentials, uroselectan has its value. It renders a physiological ureterogram, as well as a demonstration of function.

Where cystoscopy and ureteral catheterization are contra-indicated, the employment of uroselectan offers valuable data regarding the following:

1. Function, which may be
 - (a) Normal.
 - (b) Delayed.
 - (c) Absent.
2. Anatomical configuration of the kidney, pelvis and ureters.
3. Dynamic function of the pelvis and ureters demonstrating
 - (a) Atony.
 - (b) Emptying time.
 - (c) Abnormalities.
4. Cysto-radiogram.

When the diagnosis rests upon the appearance

of the minor calices, where the earliest pathological manifestations occur, uroselectan fails to give as clear or as sharp a roentgenogram as the method now employed. The reason for this is quite apparent. The latter depends upon the injection of an opaque solution, which fills and distends the pelvis and calices resulting in a distinct line of demarcation between the renal parenchyma and the pelvis of the kidney. On the other hand, uroselectan does not distend the pelvis or calices, and the resulting contrast is not as marked, nor are the minor calices as sharply defined. The excretion method of urography may require an alteration of our present manner of interpretation.

The time element should also be taken into consideration; with the patient prepared on the modern cystoscopic table, equipped for x-ray, a few minutes may suffice for the passage of a cystoscope, and the introduction of a ureteral catheter. The pyelogram may be obtained immediately regardless of kidney function. Uroselectan, however, requires at least from 15 to 30 minutes for the intravenous injection, and is followed by an indefinite period of time for x-ray, depending upon the ability of the renal parenchyma to excrete the substance.

In closing, we wish to state that we believe uroselectan to be a marked advance in the armamentarium of urologists for aiding diagnosis in certain selected cases, but hardly feel that the future of urology will be relegated to the x-ray laboratory, nor that the procedure of pyelography has become so difficult that the introduction of uroselectan will automatically displace direct pyelo-ureterography.

The insertion of a catheter and the gentle introduction of a few cubic centimeters of an opaque solution into the ureter or kidney pelvis for a pyelo-ureterogram, at the time of observation, still appeals to many urologists as the method of choice.

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PROBATION—THE FIRST LINE OF DEFENSE*

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In August of last year I was made State Probation Officer and I was considerably amused, after my appointment was announced, to find that the young blades of Springfield got the impression that I was the State Prohibition Officer and asked if I had to carry a gun. If there were such a person his duties would doubtless be the exact opposite of mine. It seems to me that most prohibition officers are active in filling the jails while my job as State Probation Officer is, as far as possible, to render jails unnecessary.

I have the distinction of being one of two women in the United States who are serving in this capacity, Indiana's probation being administered also by a woman. In fact, so far as I know

there are only three states having State Probation Officers: Illinois, Indiana and Rhode Island. In the other states, and I regret to say that there are not many using probation as they should, it is administered through secretaries of commissions or other branches of state service.

Not only the State of Illinois, but the Federal Government is confronted with a staggering prison problem, and while the ardent wets may feel that this is due entirely to the operation of the 18th Amendment, sober thinking persons recognize that it is *more* far reaching and far more serious. The prisons of the nation are increasing their capacity whenever possible and are yet unable to keep up with the demand for more cell room. Those prisons in which men are crowded and herded together, where great dissatisfaction has of necessity prevailed, have been the scenes of riot, fire and bloodshed and terrors unspeakable. Human beings cannot live together in such close quarters without making trouble. It speaks splendidly for the management of our Illinois prisons that we have so far escaped these riots.

Illinois is now engaged in a building program at its penal institutions amounting to about \$1,500,000, which includes added cell room at Pontiac, Chester and Joliet for 3,000 more prisoners and the new Reformatory for Women at Dwight, which will eventually cost \$3,000,000. As is obvious, this Illinois building program involves an enormous expenditure of public funds felt by the individual in the increase of taxation, but this is perhaps the least important factor in the problem. Relatively few people in their busy lives stop to consider the aims and purposes of this great and costly public machinery or to consider whether it is accomplishing the purposes for which it is designed.

Some of us have the idea that jails and prisons are merely built for the incarceration of individuals dangerous to the public, thereby affording such protection to the public as might be obtained from the incarceration of rabid animals. Others seem to believe that the penalty imposed upon the criminal will cause him to emerge from the prison a chastened and penitent person. The idealistic prison reformer has looked forward to the day when prisons will be so conducted that they will accomplish reformation rather than impose mere brutal punishment.

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Those familiar at first hand with the operation of prisons recognize their reformatory powers or lack of them and that a prison sentence oftentimes transforms a casual law violator into a hardened enemy of society. Since, obviously, prisons do not incarcerate all men for life, sooner or later many of these hardened malefactors are liberated to prey upon society.

Our daily newspapers show us that a very large percentage of crime is committed by the hardened graduate of our penal institutions. These graduates who are experts in crime, and the majority of whom are between the ages of 16 and 25, have received their primary course in the schools for delinquents; their high school training in state reformatories and have obtained their college degrees in the state prisons.

Without being mawkishly sentimental, students of crime, criminologists, have come to recognize that brutal punishment for brutal crime does not often bring about reform; that a mere desire for vengeance has no place in the government of a great and enlightened state. Out of this has come the belief that firm and careful guidance with due consideration for human weaknesses may lead the derelict back to a reasonable place in society.

This idea has reached a rather high state of development in Illinois in what is known as its parole system, a system which is not equaled by any other state in the Union. However, these subjects of parole have acquired the stigma and undergone the demoralizing influence of conviction and incarceration with the incorrigible and pathological criminals, a condition which might have been prevented in many cases if probation could have been properly administered.

Perhaps it would be just as well to define probation and parole at this time and so emphasize their differences. Probation is the method by which the community, through its courts, seeks to reform, supervise and take care of offenders without imprisoning them and is especially indicated with young people and those not hardened in vice and crime, and with first offenders whose offense is not too serious. It is a voluntary arrangement between the offender and the court. Parole is a grant of liberty, as it were, under supervision after imprisonment and before the full term of sentence has expired.

In other words, probation is at one end of the

correctional system and parole at the other; probation is the first line of defense and the stronger this defense is built, the firmer probation is established, the less need will we have for jails and prisons and for the parole system.

Parole is the effort to rehabilitate and at the extreme other end from this salvaging of the wreckage stands probation, which represents the modern conception of the "prevention of the criminal." Which then is cheaper—to prevent or to salvage—to neglect and then try to reform—to aim to keep out of jail or to build more and bigger and better prisons and maintain a parole system, all at the expense of the taxpayer?

I wonder if you taxpayers realize that 50 cents on every dollar you pay into your state treasury on general taxation goes to take care of the wards of the State? Do you feel you are getting your money's worth? During the first or present biennium of this administration the sum of \$84,000,000 is due the State from general taxation and out of that sum \$30,000,000 is allocated to the Department of Public Welfare for running expenses and \$10,000,000 for building purposes. When we stop to think that our correctional and penal institutions are all overcrowded and that we are receiving prisoners at the rate of three a day, or 1,000 a year, without a corresponding decrease in dismissals or on parole, we realize that a large part of our taxes is going to take care of a situation which, in a large measure, might be prevented.

We Americans seem to be so much more willing to spend money on salvaging than on prevention; on trying to find the horse after he has been stolen, rather than in putting a good firm lock on the door in the first place. We are niggardly in spending money to prevent the perfectly obvious from happening and lavish on expenditures which might have been prevented.

The aim of all good probation workers is to keep their probationers out of jail and such workers claim 75 per cent. satisfactory results; claim that three out of every four make good. Of course this means that the judge of that court has been selecting his cases for probation with care and not in a hit-and-miss way; that investigations have been made thoroughly by the officer and that the supervision extended is intelligent and dependable.

In those states where figures on probation are

available, as they are not in Illinois because we have had State supervision less than a year, the service is found to cost about \$30.00 per year per person. We do know, however, that it costs \$300.00 per year to keep an offender incarcerated in our penal and correctional institutions or ten times as much as probation costs. The probation period is seldom extended beyond two years though in some states it may be extended indefinitely.

To be conservative, we will say that the average prison term is five years. In many states it is ten. Here we have a cost of \$1,500 for incarceration against a cost of \$60 for probation, or 25 times as much. In addition to that we must add the economic loss to society presuming the man might have made good on probation. He has become a liability, and perhaps a permanent one, when he might have been made into an asset. Let us not forget his family which may have become a charge upon the community, either in whole or in part. If a probation officer receives a salary of \$1,800 per year and he saves only 6 adults or juveniles from incarceration in one year and restores them to normal life, he has made his salary and saved the State, perhaps thousands of dollars in the future.

As an example of the inequalities of justice I should like to recall to your minds an incident which appeared in the newspapers last fall. In one of our prominent central Illinois counties two men were tried at the same term of court. One had wrecked a bank of two or three hundred thousand dollars and had nearly wrecked the community. The other man had stolen some chickens and disposed of them for \$15.00 because, as some of the women in the county told me, his family was practically starving. Furthermore, they said, it was his first offense. I cannot substantiate all these statements. Perhaps the visiting judge who sat on the case had information about which I do not know, but on the face of it, it does not seem reasonable nor fair to give the man who stole the chicken from one to fourteen years in Chester and the other man who stole \$200,000 one to ten years.

It would seem that probation might have been at least tried. As a result of what seems like an injustice to me, you taxpayers are going to share in the expense of \$4,200 to take care of that man for fourteen years unless he is released,

and the county is probably going to help support the family he left behind unless they can ship them to some other county to be taken care of.

I have told you what Illinois is paying for increased cell space and now I will tell you what is making that increase necessary. In the 16-year period between 1913 and 1929 the population of our state increased 22 per cent. while the population of our penal and correctional institutions increased 130 per cent., or six times as much. This increase has been greater during the last year than in any other period of our state history and we are receiving offenders at the rate of three per day.

Professor August Vollmer, head of the Police Research Department of the University of Chicago, a man who has done some outstanding work along this line in California, made the startling assertion last winter that one in every 120 American citizens is a criminal; that there are 1,000,000 "dyed-in-the-wool" criminals in the United States, or 61,000 in Illinois. Experts tell us that one child out of every 100 may be considered a potential delinquent, so based on the 1928 population of the State we have over 44,000 such children. These two groups constitute a menacing army of criminals and embryo criminals, possible murderers, bandits, burglars, rapists, prostitutes, advancing like an army across the State of Illinois, enemies of society, a social and financial problem, straining every resource of the body politic.

Here in Illinois probation operates under a permissive law which means that the county and circuit judges can decide whether they will or will not administer probation and permits the county boards to determine whether or not they will make the necessary appropriations. There are no uniform standards because each county is a law unto itself. Some counties have interested judges who are administering probation in a very fine way. Others, twenty in all, have no form of probation whatever and many others are administering it so poorly that it is almost useless.

As you perhaps know, county judges administer juvenile probation under which term come girls up to 18 and boys up to 17 while adult probation is handled by judges of the circuit court. In Chicago and Cook County there are

various other courts which administer probation.

Massachusetts is the outstanding state in the use of probation which they have had for 52 years, 39 years of which time it has been mandatory or compulsory and which means that every court with criminal jurisdiction must use probation where obviously indicated. Every criminal court has one or more probation officers acting under a central state supervision which is itself a feature of the judiciary. The result is that Massachusetts has not added any cell room to her penal and correctional institutions in the last 25 years, but on the contrary, has actually abandoned some she had. In other words, the State has not spent one dollar on increasing the size of these institutions in over a quarter of a century. The crime rate in Massachusetts is said to be the lowest in the country and that of Boston the lowest of any city. During 1928 homicides in Chicago increased to 15.8 per 100,000 while those in Boston increased to 3.8 per 100,000.

The experience of Massachusetts indicates that the proper use of probation assures a lower crime rate, greater security for the citizen and a safer place in which to live. In other words, that the higher the percentage of probation in selective cases with proper supervision of employment and home conditions by qualified probation officers the less crime there will be.

At the present time we have 300 probation officers in Illinois listed in our files of whom 143 are serving outside of Cook County. Doubtless the Cook County personnel has been somewhat decreased recently on account of the financial situation. The majority of the down-state officers are only on part time duty and paid accordingly. Many of them are volunteers and while volunteer service can be made effective if directed by trained officers it is not worth much if undirected. Most of them have not profited by the experience gained in the work, have not sought to train themselves or been trained by the judges under whom they are serving. In other words, a large number are working without much purpose, rhyme or reason. Under such administration, and probation practice is as much administrative as judicial, it is failing to gain the results it can and should. Many probation officers are proving as unsatisfactory as the same type of person formerly employed as a lay health officer.

There is no question but that many Illinois counties, particularly those dependent on agriculture and coal production, are having financial difficulties and this reason is given for not establishing probation but more frequently than lack of funds I have found that lack of understanding of the underlying principles of probation or the lack of a progressive spirit on the part of public officials is the reason for inactivity.

This excuse of lack of funds or the plea of economy is ill founded, inasmuch as a niggardly attitude on the part of counties in the matter of probation will inevitably be compensated by increase of taxes for the punishment of the criminal. A large part of the 40 millions allocated to the Department of Public Welfare about which I have told you, is expended for the care of delinquents, incorrigibles and criminals who have arrived at this condition through circumstances which might have been prevented, in a large degree, by intelligent action in the home community.

On account of the record which probation has made and is making in such states as Massachusetts, New York, New Jersey and Indiana and the fact that it also is now used in Illinois in eighty counties, though without uniformity or standards, assures me that it will become effective as soon as we have a new state-wide law passed, which we hope to do next year. Public sentiment is being awakened to the possibilities that probation offers and is responsive to our pleas for support and assistance. With this arousing of public opinion will come a demand for improved service through the courts and a trained and intelligent group of probation officers. The prevention of delinquency and the salvaging of human lives are too important to be entrusted to the incompetent, the indifferent and the unintelligent person.

The more progressive judges of the State are almost unanimous in recognizing the value and the necessity for probation officers in the administration of justice and the prevention of crime. One enthusiastic judge remarked to me that an intelligent probation officer is as necessary to the success of his work as is the competent nurse to the physician, and every physician will recognize that while the competent nurse is an asset the untrained, incompetent may prove a most costly liability.

Probation is not designed for every offender nor for every offense any more than quinine is indicated for every disease, and the wise judge, like the wise physician, makes his diagnosis of each case and plans his treatment accordingly. Experts tell us that there is no one cause for crime and that there can be, therefore, no one panacea that will cure or prevent it, just as there is no one cause for physical disease or one universal cure. We also know that probation is not a form of leniency that applies to every situation; that it was never intended for burglars or pickpockets or for those who resort to crime as a business.

Probation stands in the same place in social conduct as preventive medicine occupies in the field of medicine. Unfortunately, preventive measures are rarely spectacular and public attention to such measures, however valuable, is very difficult to attract. An expert in fire prevention says that he can draw the entire community to witness a spectacular and wholly unnecessary fire but that he can hardly fill the town hall for public instruction in how to prevent fires.

Even in your own profession of medicine I am told that a program on disease prevention is never as fully attended as a meeting devoted to the question of the salvaging of the sick. At any rate, preventive medicine, as it stands today, is the result of a slow, laborious and persistent education and I am not enthusiast enough to expect that crime prevention will prove instantly and irresistibly interesting. Human conduct is dependent upon many mixed and complex factors, prominent among which must necessarily be mental and physical ill health and the clear understanding and adequate treatment of human delinquency must depend in large measure upon an intelligent appreciation of the effect of illness on the individual.

On this account the criminologist and the probation officer must necessarily look to the medical profession for guidance and I am firmly convinced that in this field the physician of the future will find one of his greatest opportunities for service to society. One of the most concrete examples of the necessity for medical guidance in dealing with the offender was found a short time ago in Great Britain during the prevalence of sleeping sickness or encephalitis lethargica. The peculiar changes in disposition incident to

this disease and with which, of course, you are more familiar than I, lodged 108 individuals in police stations of England and in some instances these unfortunates were given sentences and penalties for their illness. The recognition of the character of the disease by intelligent physicians who were friends of the court led to precautions which rendered such shocking miscarriage of justice impossible in the future.

Modern clinical treatment of the juvenile delinquent—the treatment based on modern psychology—concerns itself more with the offender than with the offense; more with the question of “Why did you do it?” than “What did you do?” Not so much with punishing as trying to find the cause for the misdemeanor, the reason for the delinquency and removing, if possible, the contributing factors. Nor is this treatment based on foolish sentimentality nor a desire to be lenient. Probation, in the real sense of the term, should never be used without careful investigation of each case and with the expectation at least that the probationer will make good. He is given his “chance.” If he fails on probation then it should be denied him again unless there are extenuating circumstances.

With the machinery for adult and juvenile probation gradually developing in our more progressive counties there is coming an unusual opportunity for the medical profession to render a service of inestimable value to society. The answer to this all important question of “Why did you do it?” is often only to be found in a clear conception of the individual’s physical and mental health. Without this medical advice and assistance many people are punished or sent to prison who really should be in a general or psychopathic hospital. I have had judges tell me that they needed just such assistance in the disposition of cases and that they have had to send offenders to jail when they seriously suspected they were mental or physical cases.

Medical men will understand, as no layman and no judge can understand, the peculiar changes in temperament—irritability, irascibility, depression, hopelessness, delusions—which radically alter human conduct and which are dependent upon abnormal physical and mental conditions. Of course, with the definitely feeble-minded, nothing can be done in the way of probation.

Probation is not a new thing—it is over fifty years old—it has just not been given a fair chance in Illinois. It offers more hope of decreasing crime than any other arm of the correctional service. It promises more in the way of results than anything else on the horizon of social conduct today. But to secure the very best results from probation practice—to go as far as we should like and as straight, we know we must have medical advice and counsel. Such assistance, when it is of the right kind, will eliminate many mistakes in giving probation, will make work easier for the judges and will give society a greater measure of protection from irresponsible people who should not be at large.

At the present time such service is being rendered to some extent in those counties where the Institute for Juvenile Research holds its conferences, some eleven in all. While these conferences may be extended and will be of infinite value in creating public sentiment and in bringing to counties specially trained psychiatrists, it is not to be expected, nor is it probably to be desired, that the Institute could furnish sufficiently constant or continuing service to meet the daily needs of the active courts. It is the opportunity of the local medical profession to meet this need and, if it will, the local medical profession can do it better than any other agency.

If county medical societies and local physicians will become sufficiently interested to provide for their own courts such medical guidance as the intelligent administration of justice requires it will serve the desirable purpose of preventing a multiplicity of public officials to give this service.

There will be need for the highly specialized service of the Institute of Juvenile Research in affording, if you will, expert consultation in unusual cases and this service may be desired by the court or his medical advisers. The Institute will always prove invaluable in bringing to the local medical profession the advances in this rapidly developing branch of medical service and of standardizing the methods and procedure in this work.

We often feel, in dealing with probation and the medical aspects of probation, that the 102 counties of Illinois are talking each in its own peculiar language unintelligible to the other

courts of the State. The Institute, the county medical societies and especially the Illinois State Medical Society may serve admirably to give to Illinois uniformity of understanding.

In the Institute Staff Conferences held bi-monthly in eleven counties and with which many of the public spirited physicians of Illinois are familiar, the procedure has been developed with proper deference to the medical profession and with the recognition of the part that the medical profession must play in the future.

Where there is no family physician, which occurs in about one-third of the cases presented, the county medical society is asked to appoint some qualified physician to do this work and the fee is paid by the county. The physicians making the original diagnosis are always invited to the staff meetings when the cases are discussed and every effort is made by Dr. Schroeder and his assistants to cooperate with the local physicians.

The policy of the State Medical Society which has been especially apparent during the past few years of taking the initiative in public affairs requiring medical guidance rather than allowing the public to take the lead, gives gratifying assurance to those of us who are struggling to establish standards in probation of what we may expect through county medical societies in the future. It can hardly be expected that each court in the State could find in the medical societies in his community a trained psychiatrist nor is this essential if there can be in each county in Illinois physicians who will master the rudiments of modern psychology and psychiatry, men in good standing in their medical societies and having the confidence of the public. If every court can have such assistance the problem of the prevention of crime is on its way toward a solution. Such physicians recommended or designated by the medical society could serve as the unofficial advisers and friends of the court and render most invaluable service.

This, gentlemen, is the program I am submitting to you and will submit to the judiciary of the State; the cooperation, which, as State Probation Officer and as a representative of the Department of Public Welfare, I am urging you to help me establish and one which I am convinced will have a far-reaching effect.

WHAT WE NEED IN PROBATION

1. We need probation service in every court trying criminal as well as other cases.

2. Better paid and better trained probation officers. I want to raise the standards in every way.

3. Enlarged facilities for physical and mental examinations for problem cases. Cooperation between physicians and the courts and officers trained to utilize such facilities.

4. More attention to the causes of crime and their elimination. More preventive work, more volunteer helpers for the Probation Officer who will find and report delinquency.

5. A higher type of probation practice, including:

(a) Thorough investigation before probation is granted.

(b) A thorough study into causes of delinquency in each case and a definite understanding of needs to be met in order to effect a cure.

(c) More intensive supervision.

(d) A prompt return to court for those who do not make good.

(e) No lifting of probation until term is finished.

(f) Careful records in each case.

THE ENDOCRINES IN GYNECOLOGY WITH SPECIAL REFERENCE TO DYSMENORRHEA AND OTHER MENSTRUAL DISORDERS*

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During the past years the advance of endocrinology has been so rapid, that a practitioner can hardly keep up with it. Woman is more complicated than man in the correlation of the endocrine system and in her there are more noticeable clinical manifestations of the disturbance of the endocrine balance. Woman is more subject to emotion, pays more attention, thinks more of her sexual sphere, and the slightest disturbance of her regular activity leads her astray from the normal path of her every-day life.

The subject of this paper is the influence of

the endocrine glands on dysmenorrhea and other menstrual disorders.

Our problem is also to correlate all of the better known gland diseases, their hyper- and hypofunctions with the sexual sphere. We have attempted to determine to what extent menstrual disturbances depend, not upon one diseased gland, but upon a group of glands. Besides, we have been interested in the discorrelation of the glands on exclusion of the diseased gland and the resulting disturbance of the endocrine balance. Schematically, we shall attempt to review the facts that are familiar to us concerning the physiological and pathological functions of the glands.

PHYSIOLOGICALLY

Pituitary Body: Anterior lobe: Controls growth, stimulates follicular ripening. (H. Evans.) Posterior lobe: Alpha hypophamin (vasopressin) rises of blood pressure; beta hypophamin (oxytocin) stimulates and contracts the uterus. Posterior lobe also galactogogic by way of contraction smooth muscle of milk ducts.

Pineal: No evidence of influence of normal menstruation.

Thyroid: Influence on growth and development of genitalia. Thyroid enlarged during puberty and menstruation.

Parathyroid: Enlarges during menstruation.

Thymus: Influence on development of genitalia.

Mammary Gland: Regulates ovarian activity. Stimulates lactation.

Pancreas: Pancreas and sexual glands are synergists. (M. Serdukov.)

Suprarenal Gland: Cortex enlarges during pregnancy.

Ovary: Stimulates and regulates sexual development.

(a) Follicles produce premenstrual changes, induces sexual response. (E. Allen and E. Doisy.)

(b) Lipamin: Stimulates premenstrual and menstrual changes in mucous membrane of uterine corpus. Lipamin present in early corpus luteum.

(c) Luteolipoid: Inhibits menstruation. Present during retrogression of corpus luteum. (Seitz, Wintz.)

(d) Interstitial cells?

PATHOLOGICALLY

Pituitary Body: Anterior lobe—hyperfunction: Acromegaly, gigantism, menstruation not markedly changed. Later when regressive pathologic changes occur in acromegaly and gigantism, hypofunction results and amenorrhea and sterility take place. (W. P. Graves.)

Frohlich's type of hypopituitarism—amenorrhea.

Pineal: Destruction by tumors leads to premature maturity, infantile giant growth, epiphyseal obesity, hyper-genitalism characterized by menstruation precoc, premature development of the mammary gland, ex-

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ternal genitalia, hair growths on the external genitalia and axillary cavity. (M. G. Serdukov.)

Thyroid: 1. In *adolescent goiter* (if negative for symptoms of thyroid disturbance) menstruation is usually normal. In hyperthyroidism menstruation often delayed, irregular and scanty.

In hypothyroidism—tendency toward menorrhagia.

2. In *exophthalmic goiter*—menstruation frequently normal. In severe cases menstruation is irregular and scanty. In most severe cases—amenorrhea.

2. In *paranchymatous goiter and simple adenoma* menstruation usually normal. If there is evidence of hypothyroidism, menorrhagia may be present. (H. Gardiner-Hill and I. F. Smith.)

4. In *myxedema*—before the menopause menorrhagia commonly present. In some cases menstruation completely ceases. (W. Falta.)

Parathyroid: In non-pregnant women, disease of the parathyroid probably does not affect the sexual sphere. There is a tendency to spasmophilia and tetanic convulsions in pregnancy and motherhood. (B. Zondek.)

Thymus: Tumors of thymus, leads to hypoplasia of genitalia. Hyperactivity, causes infantilism and sexual immaturity. In hypoactivity, result is precocious sexual development.

Mammary Gland: In hyperactivity amenorrhea may be present, due to inhibiting influences on the ovary. Hypoactivity may cause menorrhagia (due to disovarium).

Pancreas: Pancreatic diabetes may produce functional disturbances such as amenorrhea, hypomenorrhea, decreased sexual instinct and pruritis vulvae. Ninety-five per cent. of these cases are usually sterile. (M. Serdukov.)

Suprarenal Gland: Hyperfunction of the cortex leads to the premature development of the body, and secondary sexual character (pubic hair growth, etc.); also may develop mustache, beard, hirsutism; and pseudohermaphroditism. Psyche is not disturbed. Sexual desire is not awakened. Internal genitalia of normal size. Hypofunction (both suprarenal systems) known as Addison's disease, if occurs in children prevents menstruation. If in adults leads to amenorrhea and atrophy of sexual glands. (W. Falta.)

Ovary: Hyperovarium leads usually to menorrhagia or metrorrhagia, and dysmenorrhea. Premature development of maturity, large skeleton, development of axillary and pubic hair in young and development of sex instinct. Good constitution and tendency to fertility. Thyroid decreased. Hypoovarium leads to retarded development of the body, lack of axillary and pubic hair, obesity, lowered metabolism, hypomenorrhea and amenorrhea, sterility, pseudomyxedema and often goiter. Metrorrhagia can appear as a result of destructive changes in ovaries. (Dalché.)

Before proceeding to a description of the treatment, I should like to say a few words about cer-

tain other signs of endocrine disturbances. We do not know the normal amount of hormones in the blood circulation, their constancy or the enormous dependence of one hormone on the other. Only recently have experimenters been successful in throwing light on the sex hormone and in discovering its presence in the body.

Because of lack of knowledge, treatment is often groping, often producing good results but without clear reasons. Several diagnostic points are found in general infantilism, asthenism, and obesity. General infantilism is easy to diagnosis by retarded physical development. After sex maturity, the upper part of the body becomes longer than the lower part, the face is small, the teeth in the upper jaw are far apart. The chest is round with the ribs horizontal, and there is hypogenitalism.

Asthenia is characterized by emaciation, delicate bodily structure, thin nose, long and narrow chest and protruding scapulae. Cases of obesity of endocrine origin are thyrogenic and are characterized by deposits of fat in regions of the thighs, glutei, pubis and breasts, and general obesity—they occur in hypofunction of the thyroid gland. Hypophyseal fat principally is deposited on the hips, mons veneris and mammae and also appears in hypofunction. Besides, there are epiphyseal obesity in hyperfunction of the epiphysis and pancreatic obesity in hyperfunction; and ovarian obesity in hypofunction and dysfunction of the ovaries.

Metabolism is increased in hyperfunction of the thyroid, hypophysis and suprarenals. In hypofunction of the thyroid, the pituitary, suprarenals and ovaries it is lowered. (Falta.) Gardiner, Hill and Smith point out that "basal metabolism estimation provided confirmatory evidence of the degree of thyroid activity," and the type of menstruation varies with the degree of thyroid activity. In menstrual disturbances of endocrine origin these variations can appear in the form of amenorrhea, or oligomenorrhea, which are caused by the failure of the follicles to ripen, the stopping of follicular growth, and tumors of the ovaries. Polymenorrhea results from hastened follicular ripening. Menorrhagia probably results from insufficient contraction of the uterus. Jaschke and Pankow observed menorrhagia in the presence of very marked masturbation which can destroy the ovarian cycles that

has not yet been established, and in general can disturb the picture of bleeding where it is difficult to differentiate menorrhagia from metrorrhagia.

The type of dysmenorrhea which we observed was a primary type with spasmodic contraction of the internal and often external os, which is the cause of dysmenorrhea in many girls, who are otherwise in good health. The uterus of these girls is anteflexed and often retroverted. Some of them remain in bed during the pains and others are up. The pains usually begin at the onset of menstruation and continue from several hours to one or two days. Besides the local pains, the girls suffer from general nervousness, nausea, headache and pains in the lower abdomen which can irradiate to other parts of the abdomen. The majority of our patients are young—up to the age of twenty-three or twenty-five. Many of them are virgins. A. P. Graves, in giving ovarian preparations for treatment of dysmenorrhea finds that "the drug actually is effective in some beneficial but unknown way." Examining the majority of our patients before and after use of organo-therapy, we found in the majority of cases, a small uterus of somewhat hard consistency before menstruation, which, after administration of whole ovarian gland, or even more strikingly, ovarian gland mixed with others, became softer and larger, and in our opinion this softening of the uterus causes cessation of dysmenorrhea.

We also noticed that in many girls with dysmenorrhea the labia minora was enlarged and sometimes even slightly protruded over the large labia. At times only one of the minor labiae was enlarged and the other was entirely normal. This appeared in girls who were corpulent and sluggish. Enlarged minor labiae, if they are flabby, must be considered as the result of auto-erotism in the majority of cases. Of course, we clinicians cannot inquire into this owing to the delicacy of the question, but the few written questionnaires which exist in medical literature on this subject give us a rather inclusive picture of this habit. Thus, for example, Katherine Davis in questioning a group of 272 girls who recognized periodicity, found that only sixteen per cent. never masturbated. Fifty per cent. continued the practice of masturbation. In a group of 238 who recognized no periodicity,

forty-two per cent. had never practiced auto-erotism and twenty-six per cent. practiced it at the time of the questionnaire. Impotence was found in 182 of the thousand questioned. Of these thousand, thirty per cent. suffered a nervous break-down at the time of menstruation.

Therefore, we believe that frequently repeated excitement by artificial manipulation and the consequent contraction of the uterus (show of mucous plug from the cervix) contracts the internal os and becomes the cause of the dysmenorrhea. If we look back we shall recall that among our patients there are some who complain of dysmenorrhea that commenced with the first menstruation and which continues until marriage, when it disappears. Others complain that dysmenorrhea has appeared a year or two after the beginning of menstruation and finally, a third group complain of dysmenorrhea from the beginning of the first menstruation which continues during married life. If we analyze these three groups we may suppose that the first group discontinued auto-erotism immediately after marriage. The second group began to practice auto-erotism some time after beginning of menstruation, and finally, the third group practiced auto-erotism at the time of the first menstruation and continued it during the time of marriage. It is interesting to note that in this last group of women the minor labiae are larger than in the other two groups. We believe that in some unknown way, auto-erotism exerts an influence on the endocrine glands, probably especially on the ovary. Otherwise how could we explain such beneficial results of the endocrine treatment for dysmenorrhoe?

In turning to an analysis of the treatment of diseases and the discorrelation of the endocrine glands, we must mention pluri-glandular therapy, which often gives exceptional results. We know that some of the endocrine glands are of enormous importance, each independently of the others. For example, the removal of just one gland, the parathyroid, or pancreas, even leads to death. Besides, if one gland is diseased others also become affected because the balance of the endocrine system is destroyed. At the time in life when glands cease to work, for example, in the menopause, with the exclusion of the ovarian secretion, there is a shock to the organism, such as the disturbance of metabolism, irritability of

No.	Dysmenor.	Amenorr.	Oligomen	Polymen.	Menorrhag.	Metorrh.	Sterility	Sex Frigid	Treatment	Improved	Not Impr.	Remarks
1.	1	..	1	..	..	..	1	..	Mixed Glands	1	..	Dysmen. Ceased, Sterile
2.	1	..	..	..	1	..	..	..	Thyreo-Ovarian; Hum. Follic.	1	..	
3.	1	..	..	..	..	..	1	1	Mixed Glands	1	..	Pregnancy: Sex Response
4.	1	..	..	..	..	..	1	..	Animal Folliculin	1	..	Pregnancy; Hyperemes. Gr.
5.	1	..	..	..	1	..	..	..	Mixed Glands	1	..	
6.	1	..	1	..	..	..	..	..	Corpusluteum; Insulin	1	..	
7.	..	..	1	..	..	..	1	1	Mixed Glands	1	..	
8.	1	..	..	..	1	..	1	..	Animal Folliculin	1	..	Normal Mens.; Sex Resp.
9.	..	1	..	..	..	..	..	1	Mixed Glands	1	..	Pregnancy
10.	..	..	..	..	..	..	1	..	Animal Folliculin	1	..	Menstr.; Sex Respon.
11.	..	1	..	..	..	..	1	1	Mixed Glands	Normal Menstr.	..	Vicarious Menstr.
12.	1	..	1	..	..	..	1	..	Animal and Human Folliculin	Sex. Resp.	..	No Menstruation
13.	..	1	..	..	..	..	..	..	Thyreo-Ovarian Gl.	1	..	
14.	..	..	1	..	..	..	..	..	Pituitrin	7 Days Profus Flow	..	Two Months Normal Flow
15.	..	..	1	..	..	..	..	1	Cervix Dilated	1	..	Thyroid Enlarged
16.	..	..	1	..	..	..	..	1	Pituitrin	1	..	
17.	..	1	..	..	..	..	..	..	Mixed Glands	1	..	Menstr. 4 Days Duration
18.	..	1	..	..	..	..	..	..	Agomensin	1	..	
19.	..	..	..	1	..	1	..	..	Animal Folliculin	1	..	
20.	..	1	..	..	..	..	..	..	Agomensin	1	..	
21.	..	1	..	..	..	..	..	..	Human Folliculin	1	..	
22.	..	..	1	..	..	..	..	..	No Treatment	..	..	Pituitary Tumor
23.	..	..	..	..	..	..	..	..	Pituitrin	1	..	Thyroid Enlarged
24.	..	1	..	..	..	..	..	..	Sistomensin	1	..	
25.	..	..	..	..	..	..	..	..	Agomensin	1	..	
26.	..	..	..	..	..	1	..	..	Agomensin	1	..	Ovaritis; Parotitis
27.	..	..	1	..	..	..	..	..	Mixed Glands	1	..	
28.	..	1	..	..	..	..	..	..	Corpus Luteum	Delivery	..	Previously 3 Miscarriages
29.	..	..	..	..	1	..	..	..	Agomensin	1	..	
30.	1	..	..	..	..	..	..	..	Agomensin	..	1	
31.	..	..	..	..	..	1	..	..	Sistomensin	1	..	
32.	..	..	..	..	..	1	..	..	Sistomensin	1	..	
33.	1	..	..	..	..	..	..	..	Thyreo-Ovarian Glands	1	..	Laparotomy, 6 years Ago
34.	1	..	1	..	..	..	1	..	Mixed Glands	1	..	Amenorrhoea 4 years
35.	..	..	1	..	..	..	..	..	Exophth. Goiter	1	..	
36.	1	..	1	..	..	..	..	..	Mixed Glands	1	..	
37.	1	..	..	..	..	..	1	..	Mixed Glands	1	..	
38.	..	1	..	..	..	..	..	..	Ovarian Gland	..	1	Nervousness Relieved
39.	..	1	..	..	..	..	..	..	Cervix Dilated	1	..	
40.	..	..	..	1	..	1	..	..	Thyreo-Ovarian Glands	Normal Menstr.	..	Still Sterile
41.	1	..	..	..	..	..	..	..	Cervix Dilated	1	..	
42.	..	1	..	..	..	..	..	..	Ovarian Gland	1	..	
43.	1	..	1	..	..	..	1	..	Mixed Glands	1	..	
44.	1	..	..	..	..	..	..	..	Animal Folliculin	1	..	
45.	..	..	..	..	..	..	..	..	Mixed Glands; Hum. Folliculin	No Dysmen.	Still Sterile	Corpulency
46.	1	..	..	..	..	..	..	..	Thyreo-Ovarian Glands	1	..	
47.	..	1	..	..	..	..	..	..	Mixed Glands	1	..	
48.	..	1	..	..	..	..	..	..	Sistomensin	1	..	
49.	..	1	..	..	..	..	..	..	Mixed Glands	1	..	
50.	..	1	..	..	..	..	..	..	Agomensin	Menstr.	..	Dysmenorrhea, Diabet.
51.	1	..	..	..	..	..	..	..	Agomensin	1	..	
52.	1	..	1	..	..	..	1	..	Mixed Glands	1	..	Menstruation Normal
53.	..	..	..	..	..	..	..	..	Mixed Glands	1	..	6 1/2 Months Later, Fibroid and Menorrhagia
54.	..	1	..	..	..	..	..	..	Ovarian Gland	1	..	4 Months Continually
55.	..	1	..	..	..	..	..	..	Mixed Glands, Thyroid Gl.	Sex Response Menstruat.	..	Exophth. Goiter
56.	..	1	..	..	..	..	..	..	Pituitrin Human, Folliculin	1	..	
57.	..	1	..	..	..	..	..	..	Human Folliculin	1	..	
58.	..	1	..	..	..	..	..	..	Agomensin	..	1	Hyperthyroidism
59.	..	..	..	..	..	..	..	..	Ovarian Gland	1	..	Nephritis
60.	..	1	..	..	..	..	..	..	Mixed Glands	1	..	Hot Flushes
61.	..	1	..	..	..	..	..	..	Mixed Glands	..	1	Had Laparotomy

Improved 44; Partially Improved 4; Not Improved 7; Not Treated 1.

Figure 1. Our diagram represents fifty-six cases of various anomalies of endocrine origin. About twelve cases are not cited. Of the fifty-six cases forty-four improved; four partially improved; seven did not improve and one was not treated. One case of amenorrhea was cured but dysmenorrhea accompanied the menstruation. Of the fifty-six cases, there were eighteen of *dysmenorrhea*. Of these, five complained only of dysmenorrhea; four of dysmenorrhea and menorrhagia; three of dysmenorrhea and oligomenorrhea; two of dysmenorrhea and sterility; four of dysmenorrhea, oligomenorrhea and sterility; one of dysmenorrhea, oligomenorrhea and sexual frigidity. Of eighteen cases of *amenorrhea*, there were sixteen cases of only amenorrhea; one of amenorrhea and sexual frigidity, one of amenorrhea, sterility and sexual frigidity. Of fifteen cases of *oligomenorrhea*, five were of that alone; there were two cases of *polymenorrhea*; five cases of menorrhagia; six cases of metrorrhagia; eleven of sterility and eight of sexual frigidity.

the neurovascular apparatus, acroparesthesia, feeling of pressure in the chest, depression and sometimes pruritus, in climacterium. But usually in a short time the balance of the endocrine system is restored. If, as a result of disease, the glands are inactive at a time when they should be active, or if hyper or hypofunction of the gland appears, the organism suffers very seriously, and in the majority of cases, the diseased gland destroys the harmony of the endocrine system (for example, diseases of the thyroid, suprarenal cortex, or both suprarenal system, etc.).

Owing to the fact that other endocrine glands can be affected by the disease of one gland, the idea of pluriglandular therapy arose. Of course, in applying organotherapy for the treatment of dysmenorrhea and menstrual disturbances, we must entirely exclude other causes for these anomalies, such as tuberculosis, chlorosis, diabetes, morphinism, infectious diseases. Besides this, in abnormal uterine bleeding, we must *always* remember the possibility of malignancy.

In amenorrhea due to hypophyseal obesity, we give daily pituitrin injections over a period of ten to fifteen days. In menorrhagias, due to hypothyroidism, we give one-fourth to one-half grain thyroidin beginning ten days before menstruation, two or three times daily, and iodine. In amenorrhea due to hyperthyroidism we inject pituitrin daily for a period of eight to ten days, reestablishing discorrelation between the hypophysis and ovaries. We also give mixed glands. We give extracts of mammae in uterine hemorrhages if they are caused by dysovarism and also in hemorrhages from the uterus caused by

small benign tumor, subinvolution of the uterus, or in climacterium.

Preparations of the whole or part of the ovarian gland or mixed glands were used in amenorrhea and dysmenorrhea of ovarian character. In amenorrhea, on the basis of hypofunction of the ovary and infantile uterus, we used folliculin ovarian hormone or agomensin (lipamin). In metrorrhagia and menorrhagia, we used sistomensin (luteolipoid); (hypodermic injection is most effective). In dysmenorrhea, mixed glands should be given twelve to fifteen days before menstruation, and on the first two days of menstruation. These same mixed glands have also given good results in cases of nervous breakdown caused by disturbances of menstrual regularity. This treatment is continued, being given ten or twelve days before menstruation the following month; seven or ten days before menstruation the third month; five days before, the fourth month. The fifth month is optional; if the dysmenorrhea has disappeared the treatment should be stopped and the patient put under observation.

Excellent results are obtained by the injection of follicular ovarian hormone into mammals which induces oestrus not only in normal animals, but in castrated ones, together with enlargement of the vagina and uterus, tubes and mammae. E. A. Morrell by injection of folliculin into six monkeys of the breed *Macacus Rhesus* one year of age, caused premature maturity and menstruation. Carl J. Hartman states: "that the *Macacus Rhesus* begins to menstruate at four years of age, every twenty-six days with the same regularity as every woman thinks she menstruates."

It is interesting to examine the use of this hormone on women. In our practice we used folliculin from the human placenta, follicular fluid of the ovaries of the sow, and sheep. Units are varied, five, twenty, twenty-five, forty. Injections were given daily until the wished for results were achieved (menstruation and sex response) or if, when used in amenorrhea, menstruation did not appear, the injections were continued for ten days, then discontinued, and followed by another ten day course of daily injections. We injected forty units daily during this time, a total of eight hundred units, and never met with unpleasant results. Recently, in

some cases, we gave lipamin (agemonsin) in the intermissions.

We began to use follicular hormone from the human placenta in October, 1927, and later used others. For the past eight months we have been using menformon (40 units per ampule). This time is yet too short to give percentage and the number of patients who have used it in the dispensary and private practice is yet not great, but we report our observations and although they are far from the brilliant results obtained from their use on mammals, we still have obtained a number of results from the injection of follicular ovarian hormone in women, absolutely deserving of attention.

In working with folliculin, we noted that folliculin acquired from the human sources had a much weaker effect than folliculin acquired from animals. With folliculin from the human placenta we could only call out sex response, and in very rare cases, had no results whatever. In the use of folliculin from animals (menformon), we always obtained sexual response in cases of sexual frigidity. At times this was so marked that we expect to take great care in the future in using folliculin in young girls.

In a case of amenorrhea of almost two years' standing, menformon was used daily for three days and on the fourth day menstruation appeared and continued for five days. The next month menstruation appeared without menformon. Then for five months there was no menstruation. Menformon injections were again begun and continued for ten days—400 units. Menstruation did not appear. There was a ten day intermission, during which agomonsin was given, three tablets per day. Again hypodermic injections of menformon were given and on the eighth day of the injections menstruation appeared and lasted for eight days. On bimanual rectal examination the uterus was found to be enlarged. Nothing can be said of the tubes, because normal tubes cannot be palpated. We believe that an exact picture of the action of folliculin on the uterus and tubes can be obtained if we inject lipiodol into the uterus before the injections of folliculin are begun, and take an x-ray picture. By comparing this picture to one taken after the folliculin treatment is over, we can clearly see any changes that occur.

John C. Hirst points out that frigidity disappears on the use of follicular hormone. Besides, in twelve cases of sterility, after injection of follicular hormone, five became pregnant. In five cases of disturbed menstruation, three reported good results.

Zondek in his studies, found that folliculin causes enlargement of the uterus and vagina. Besides, Zondek shows that ovarian hormone and folliculin are two independent units. In using x-ray (in ten times stronger doses required for castration) Zondek found that in the diminution of the folliculin, the change of the vagina occurs just the same, and that only the use of thallium excludes the hormone.

We suggest that more attention be paid to the practical uses of folliculin since it is deserving of attention. Only a continued use of folliculin will enable us to judge of its advantages and disadvantages.

CONCLUSIONS

1. Folliculin is a powerful remedy in cases of hypofunction of the ovary.
2. At present the action of folliculin obtained from animals is more satisfactory than that obtained from human sources.
3. Sistomonsin is powerful hemostatic in uterine hemorrhage of endocrine origin.
4. Whole ovarian gland is less satisfactory in relieving dysmenorrhea than the use of pluriglandular therapy.
5. After a course of folliculin, it is advisable to continue treatment by agomonsin (lipamin) alone, used hypodermically.
6. In the treatment of amenorrhea of ovarian origin, folliculin treatment is more powerful than pluriglandular therapy. Pluriglandular therapy is more satisfactory than agomonsin (lipamin) alone.

In conclusion I would like to repeat the words of Eidelsberg, that persistency and patience are required for the treatment of endocrine disturbances.

It gives me great pleasure to thank Dr. Hibbert and Dr. Cotts for their helpful assistance.
No. 25 East Washington Street.

CASE REPORTS

Only sixteen of the more interesting cases are included in this report.

Case 1. Miss D. B., aged eighteen years, virgin. Complaints of cramp-like pains first two days of men-

struation. Menses began at fifteen, every four weeks, of three to four days' duration. Patient normally developed. Labia minora enlarged.

Rectal examination shows uterus somewhat hard, slightly retroflexed.

Mixed glands given. Dysmenorrhea first month markedly relieved. Second month mixed glands started six days before menstruation. Menstruated without pain. Third month, mixed glands given two days before menstruation. Menstruated without pain.

Rectal examination shows uterus somewhat larger and softer.

Case 2. Mrs. K. B., aged twenty-three years, married four years, no pregnancies. Complaints of dysmenorrhea. First menses began at the age of sixteen years, regular, four days' duration. Severe pain the first day. Patient is a small woman, of healthy appearance.

Bimanual examination: Retroflexed uterus of normal size, movable. Cervix conical, external os pin-pointed. Patient refused instrumental dilatation. Mixed glands given ten days before menstruation, and continually until menstruation started. The same treatment was repeated for the next two months. Patient had no dysmenorrhea for three months. Six weeks later patient complained that she had not menstruated. Bimanual examination showed a six weeks' pregnancy. Two weeks later had severe hyperemesis gravidarum. She was treated with corpus luteum and alcohol glucose rectal feedings. Hyperemesis continued for ten days. After two weeks hyperemesis became more severe, with twenty to twenty-five vomiting attacks a day. Insulin was then given hypodermically twice a day for two days. Patient recovered.

At seventh month sugar was present in urine (dextrose), 0.55 per cent. Blood sugar normal, 105. Pancreatins given. Sixteen weeks before delivery was put on Prochownik's diet.

Pelvic measurements were, spine 25, crest 24, trochanter 29, Baudelocque 17, conjugata vera 8.5, circumference 33 inches. Blood pressure varied from systolic 105, diastolic 70, to systolic 115 and diastolic 75.

Patient was delivered at term; position LOA. Water bag ruptured when cervix was opened one finger. Patient was in labor thirty-eight hours. No cesarean was performed. Episiotomy and low forceps applied (indication, exhaustion of patient). Baby was a girl, weighing five and one-half pounds, in good condition.

Case 3. Mrs. C. F., 28 years old; complains of dysmenorrhea for first two days. Menstruation irregular, seven days' duration. First menstruation at fourteen. She has had two abortions in 1920 and 1922, both at two months.

Bimanual examination showed no pathology. Patient received pluriglandular treatment beginning May 16. Last menstruation May 26, 1928, three days' duration, and painless. Examination on August 25 showed a two months' pregnancy.

Case 4. P. L., 17 years old, virgin, complained of dysmenorrhea and menorrhagia, and weakness. For

three years she has suffered from somnambulism once every week. First menstruation occurred at fifteen, seven to eight days' duration, five pads a day, dysmenorrhea occurring on first to third day of period. At present has had amenorrhea for three months.

Patient very thin, pale, with many palpable lymphatic glands in different parts of the body. She was very irritable and impudent. Rectal examination showed very small, retroverted uterus, somewhat hard, with limited movability; adnexa not palpable.

Patient received pluriglandular treatment plus luminadalin. Menstruation started after four months, four pads a day and painless. The next month there was no menstruation, but the following month it returned and from then on was regular, three to four days in duration, with complete disappearance of the dysmenorrhea. As soon as the glandular therapy was started the somnambulism disappeared. The impudent manner of the patient disappeared and she became shy and more modest. The uterus increased in size and became normal in consistency. She gained fourteen pounds. It is now nine months since the beginning of treatment. Letters from the patient indicate that she is in a very joyful frame of mind and she reports complete recovery.

Case 5. Mrs. N. M., 48 years old; four children, the youngest ten years old. First menstruation at fourteen years, seven days' duration, five to six pads a day; menstruation once every three months. When twenty-two years old patient began to bleed from the rectum every month for eight to ten days. Menstruation would follow after the bleeding from the rectum once every three months, six days' duration, five pads daily. When thirty-five years old, she menstruated every month, six days' duration, eight pads a day; first day in bed because of excessive hemorrhage. Menstruation again followed bleeding from rectum. The rectal bleeding was the same amount and regularity.

On bimanual examination no pathology was found. Patient was a diabetic and besides sugar in the urine has a general pruritus.

Patient was put on pluriglandular treatment with trypsin. The following month the bleeding from the rectum lasted only two days. Menstruation missed for two weeks, but at time of menstruation she had epistaxis of one day's duration. The pluriglandular treatment was continued. The next month, April, menstruation was regular and she had no bleeding from the rectum. May and June periods were the same, with no bleeding from the rectum. This was the first time in twenty-six years that menstruation was normal. Patient was feeling very well.

Case 6. Mrs. Z. A., 26 years old, married five years, complained of amenorrhea, dysmenorrhea, and sterility. Has had goiter for about one year. Menstruation occurs once in every two or three months. Last menstruation six months ago.

The patient was corpulent and position of uterus could not be determined bimanually. By sound it was found that uterus was anteverted, 6 cm. long, and both internal and external os were contracted.

Bilateral dissection of cervix made and cervix dilated. She was given pituitrin, one ampule daily for eight days. Menstruation began same months and lasted two days. Patient then left the city and nothing more was heard from her.

Case 7. G. D., 26 years old, married, two children, four years and seventeen months old respectively. She complains of scanty menstruation since the age of eighteen. First menstruation at fourteen, regular, four days' duration, four pads a day. Since eighteen years of age, she has menstruated every twenty-eight days but only two days' duration and one pad a day.

No pathology found on bimanual examination. Agomensin, forty tablets, one three times a day, were given. The following menstruation was four days' duration, four pads a day.

Case 8. Miss G. C., 24 years old, married four years, complained of amenorrhea for six months. First menstruation at fourteen, regular, five days' duration, four pads a day. Three years ago had a miscarriage at four months. Last four months has had headache in occipital region.

Patient is corpulent, with greatly enlarged thyroid gland. Uterus is retroverted; adnexa descended.

On April 17, pituitrin extract subcutaneously, one ampule a day, was started and given for two days. On April 19, agomensin, thirty tablets, three times a day. No menstruation followed this treatment. On May 19 she was given daily injection subcutaneously of pituitrin for ten days, and at the same time thyroid-ovarian gland, thirty tablets, three times a day. Patient stated that she felt much better, but still had no menstruation, and headache was present. June 4 and 6, pituitrin injections were given, followed by hormone, thirty tablets three times a day. June 29 started to menstruate profusely, continuing until July 6, so that ergotin was given to check bleeding. Headache completely disappeared. General feeling perfect. This case probably was case of pituitary thyroidism (Engelbach).

Case 9. Case of hypopituitarism of Dr. F. Jones. C. J., 40 years old, complains of failing eyesight for three years; amenorrhea for eight years; headache for three years. Three weeks ago had very severe headache and blood came from the left ear. Patient has repeated attacks of increased thirst, increased quantity and frequency of urination. Six months ago she noticed numbness of the tongue and the following day tongue and face were drawn to the right side. First menstruation began at nineteen; nine days' duration.

Bimanual examination not made; hymen practically intact. Basal metabolism rate was -5 ; Wassermann test negative. Urine pale yellow, specific gravity 1013, acid reaction, abundant residual; pus cells, bacilli, cocci, epithelial cells.

Eye examination showed optic atrophy; bitemporal hemianopsia. X-ray findings: Erosion of floor of the sella; heavy density extending upward from the anterior part of the middle cranial fossa. Roentgenologist thinks there is also calcification within the skull. Un-

fortunately patient did not return and refused hospitalization for further examination.

Case 10. A. A., 24 years old, virgin. Patient complained of scanty menstruation and nervous irritability one week before flow. First menses at thirteen, three days' duration, one pad a day, always regular.

Rectal examination shows hypoplastic uterus, adnexa not palpable. March 11, 12, 13, 1928, follicular ovarian hormone (animal) injections were given subcutaneously, forty units each time. March 20, menstruation began, lasted five days, four pads a day. Breasts became larger, nipples protruded more. Next menstruation April 16, lasted five days, four or five pads a day; excellent feeling. Patient states that for first time she desires to be in male society.

Case 11. G. R., 23 years old, married three years. Four years ago had an abortion at two months; sterile for last three years.

Patient is a well-developed woman, easily excited. Breasts fatty with hyperplasia of parenchyma. Bimanual examination shows uterus anteverted, small; adnexa not palpable. First menstruation at sixteen, scanty, one day's duration. At present menstruation at four week intervals, but always one and one-half days' duration, and hardly stains one pad. Last menstruation August 20. Husband's seminal fluid examination showed that only one-third of the normal number of spermatozoa were present. Of these, only one per cent. were motile and motility of those present was only very sluggish. The seminal fluid was examined one-half hour after intercourse.

Follicular ovarian hormone, 40 units daily, was given for ten days by hypodermic injection (September 10 to 20). On September 22, menstruation began and flow was for four full days, two pads a day. She feels much better, nerves are more quiet, and disposition happy.

Case 12. D. H., 18 years old, unmarried, complains of irregular and scanty menstruation. First menstruation at fifteen, always painful.

Examination showed labia minora large and flabby; uterus small, freely moveable, and adnexa not palpable. Patient had not menstruated for one month. October 22, agomensin given hypodermically. October 29, follicular ovarian hormone (human) 25 units given and repeated on November 2. Menstruation started October 31 and continued until November 5; four or five pads well stained. December 3 to 8, menstruation, five pads a day. January, three days' menstruation, five pads. Increased sexual response.

Case 13. Mrs. V. K., 32 years old, two children, last child four years old. Has eczema madidans on both arms. Amenorrhea for two years. Previous menstruation always regular.

On bimanual examination no pathology found. Patient also complains of absence of sexual instinct.

Follicular ovarian hormone, 180 units (20 units each day) given. Immediately after last injection patient menstruated three days. For first time patient noticed sexual desire and feeling.

Case 14. S. L. M., 20 years old, married two years.

Amenorrhea four years' duration. First and only menstruation at sixteen, seven days' duration.

Patient was of medium height, not corpulent; breasts virgin in type; male type of hair growth on lower abdomen. Clitoris and labia minora large. No signs of any genital infection. Cervix small, conical; external os pinpointed. Uterus anteverted, freely movable; measurement by sound, 6 cm. in length. Ovaries symmetrically large, tense, size of walnut, painless. Patency test showed the tubes to be open. Patient states that she masturbated for four years.

Thyroid-ovarian extract given, thirty tablets three times a day. On May 3 had had a show of a few drops for five days. May 5, follicular ovarian hormone (human), daily one ampule, until May 12. May 16, 17, 18, follicular ovarian hormone (animal). May 19, thyroid-ovarian tablets for ten days, three times a day. No results followed. May 25, a daily injection of agomensin and agomensin per mouth for ten days. No menstruation. Uterus dilated. Diphtheria antitoxin injected into uterus. No result. June 16, follicular ovarian hormone (animal) for fourteen days, 40 units each day. X-ray after lipiodol injection by Dr. P. C. Fox showed infantile type of uterus, tubes tortuous and long. Has had no menstruation, but first time patient states that intercourse was satisfactory. Usually patient had sexual desire two or three times during a month. After follicular injection has sexual desire two or three times a week. Never before had sexual feeling.

This case probably was a woman of lymphatic type in which there can be a hypoplastic type of uterus but disproportionally large ovaries with excess of connective tissue, and thickened tunica albuginea.

Case 15. Mrs. F. S., 23 years old, married four years, sterile. Besides sterility patient complains of absence of sexual response. Husband's seminal fluid was normal. First menstruation at fourteen, three days' duration, scanty.

Examination showed uterus small, anteverted, movable, smooth surface, painless; adnexa not palpable.

Follicular ovarian hormone daily injection for six days, twenty-five units each time. Patient noticed very marked sexual desire and feeling. Patency test showed tubes open. Patient did not menstruate and at present is six months pregnant.

Case 16. O. K., 17 years old, virgin. First menstruation at fifteen. Since onset menstruated four times, half day each time, very scanty, always painful. On January 4, 1928, menstruation for three days, two pads, slightly stained.

Thyroid-ovarian extract given. Last menstruation March 1, 1928, one day duration, one pad. Rectal examination shows uterus retroverted, retroverted, of normal size; adnexa not enlarged. March 16, 17, 18, daily injection of follicular ovarian hormone (animal), forty units each time. March 19, menstruation began and continued until March 24; two pads well stained, a day. Felt good. Examination of uterus showed it to be larger and softer. April 17, menstruation three days duration. Until August patient was away from Chicago and on return reported that she had no mens-

truation for five months. She felt run down and tired. August 20 to September 1 daily injection of forty units of follicular ovarian hormone (animal) total 400 units. September 1 to 10, intermission. At that time agomensin per mouth was given, one tablet three times a day. Still no menstruation. September 10, daily injection of follicular ovarian extract (animal), forty units each time. September 18, menstruation began and lasted eight days, two to three pads a day. Follicular hormone given for two days, September 18 and 19, and for three days, September 20, 21, and 22, agomensin given by hypodermic. Result was very satisfactory.

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THE DIFFERENTIAL DIAGNOSIS OF THE PAIN OF ANGINA PECTORIS AND THE RADICULAR SYNDROME OF HYPERTROPHIC OSTEO-ARTHRITIS OF THE SPINE*

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EVANSTON, ILL.

Some years ago a patient was observed complaining of abdominal pain. He had had many diagnoses of conditions in the upper abdomen and finally had suffered an exploratory laparotomy. Since this proved negative, he was finally classed as a neurosis.

The development of pain in the sacral region resulted in his being put to bed with extension. This caused a cessation of abdominal pain. It was then realized that the abdominal pain was the result of his osteo-arthritis of the spine.

Since then many cases of similar nature have been observed and with especial interest that group in which the referred pain simulates the pain produced by angina pectoris. There had been very little written in English on this subject until Lewis Gunther and William J. Kerr presented the most complete analysis of the literature and the diverse symptoms under the title, "The Radicular Syndrome in Hypertrophic Osteo-Arthritis of the Spine," (Arch. Int. Med., 43, No. 2, Feb. 29, 212-248). These authors, besides a most complete bibliography, discuss in detail the anatomy and pathology of the affected tissues.

Bailey and Casa Major (quoted by Gunther and Kerr) stress the thickening of the root meninges and the bony outgrowths both of which cause compression of the nerve roots.

Often patients suffering with osteo-arthritis of the spine suffer no pain in the back but only toward the peripheral distribution of the spinal nerves involved. Usually these pains are in-

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terpreted as being neuritis. The author once heard Dr. Hugh Patrick say that 98 per cent. of all the cases diagnosed as neuritis were really peripheral nerve pain from pressure on the roots by arthritic changes in the spine. Early examination of these patients may show some stiffness of the spine. During acute exacerbations, muscle spasm along the involved vertebrae may

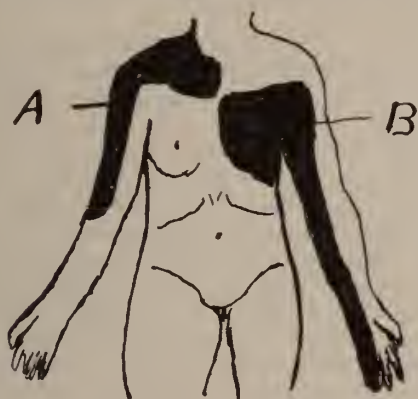


Fig. 1. (Taken from Gunther & Kerr.)

A. Pain distribution in involvement of the 4th cervical nerve root.

B. Pain distribution in involvement of the 1st, 2nd, 3rd, 4th and 5th dorsal nerve roots.

be evident. Marked bending or movement of the spine may produce pain either locally or referred. Pressure on the spine often reveals tender areas, as may pressure over the location of the posterior roots.

In more advanced cases there may be definite fixation or limitation of motion of portions of the spine, especially noticeable in the cervical and lumbar portions of the spine.

Gunther and Kerr have called attention to Déjerine's sign in radiculitis, namely, that sneezing, coughing and straining at stool either induce or increase the pain.

X-ray examination of the spine shows, as a rule, well-marked hypertrophic processes (spurs), especially on anterior and lateral aspects of the bodies of the vertebrae. In early cases the hypertrophic processes may show only as a fuzziness along the margins of the vertebrae.

Often in marked cases there is associated an area of atrophy of the bodies of the vertebrae. The spurs may coalesce with those of adjoining vertebrae to completely bridge over the intervertebral space and produce fixation of the joint. This fixation of the vertebral joints produces the so-called "ramrod spine" which is a curative

process insofar as complete relief of pain is concerned.

Parker and Adson found that extensive bone changes may occur without x-ray evidence. In the thirty cases studied by Gunther and Kerr, twelve were found complaining of chest pain. The nerves usually involved in pain to the chest are the 4th cervical which involves the shoulder, the outer aspect of the arm and the first two intercostal spaces anteriorly. Involvement of the 1st, 2nd, 3rd, 4th, 5th and 6th dorsal nerves gives pain over the precordium and the inner aspect of the arm down to the tip of the little finger. When pain occurs in this region, the distribution is exactly that of angina pectoris.

Usually the attack of angina pectoris is induced by effort; at times by an over filled stomach and more rarely they occur during sleep. Pain is the prominent symptom and is usually described in the text-books as of an agonizing character, with the sensation of the chest being in the grip of a vise. The pain is felt over the precordium, especially the middle third of the sternum and referred to the left shoulder down the inner aspect of the left arm to the tip of the little finger. Accompanying the pain as described, is a sense of impending death. All patients suffering from angina



Fig. 2

The area of hyperesthesia following an attack of Angina Pectoris. (From MacKenzie.)

pectoris do not present such a picture. In many, the pain is not severe, the important element being the fact, first: that the pain is the result of effort; second: that the patient stops the effort with the appearance of the pain; third: the pain disappears after a few minutes of rest, seldom over fifteen minutes. There is also a great variation as to the location of the pain and the

points to which it is referred. In some the pain is felt over the precordium, in others only over the sternum, usually the upper portion of the middle third. The pain may be referred to any single point of the usual distribution, namely, only to the shoulder, elbow, arm or even only the little finger may be the point at which pain is felt.

Finally the pain of angina pectoris, whether that of effort, after a heavy meal, or nocturnal is always relieved by the administration of nitroglycerine or amyl nitrite.

The pain produced by osteo-arthritis is perhaps best illustrated by a short description of typical cases:

1. A male physician of 44 years of age gives the following essential history: At the age of thirty he had a severe attack of lumbago which disappeared following the removal of an infected tooth. A similar attack occurred at the age of 32. At 35, after running up a long flight of stairs he felt a sharp stabbing pain in the 4th and 5th left intercostal spaces in the mid-clavicular line. This pain being interpreted by him as an anginal attack, he consulted an older colleague who advised x-ray of the spine. An extensive osteo-arthritis of the dorsal and lumbar spines was found. Since then the lesion has been slowly progressive with periods of remission and exacerbation. Pain is often severe from involvement of other nerves during the periods of exacerbation. In this case, although the first pain was felt following excretion, careful observation has revealed the pain is more frequent and steady in character when at rest. The precordial pain is increased by the position assumed in driving a car. Although he may become conscious of the appearance of pain during effort, the pain is not noticeably increased by the continuance of effort, neither it is relieved by rest.

2. Mr. H., a tailor, 69 years old whose general history is negative. He has a blood pressure of 140 mm. Hg. systolic, 90 mm. Hg. diastolic. Urine is negative. Heart is of normal size with a two meter x-ray plate.

Outside of a moderate arteriosclerosis his general examination is negative.

Four years ago he suffered constantly while at work from severe precordial pain and pain in the left arm. Often with this pain he has a sensation of inability to breathe and of palpitation, these being obviously the results of fear. Although this pain was not relieved by nitrites, his physician told him he had angina pectoris. He stopped work and for four years has been expecting sudden death daily. When first seen he was taking digitalis, a theobromine compound and many amyl nitrite pearls daily, all without any relief of symptoms.

Careful questioning brought out the fact that his work was sitting all day and the pain is accompanied by pain between the shoulder blades. That it is con-

stant in character and not relieved by rest. Furthermore, the same pain is felt on the right side but ignored because that pain is not "in his heart."

Also pain is felt in the lumbar spine and referred down the outer aspect of both legs, especially the right. It is further learned that these pains have been present to a less degree for 20 years. During examination of the spine a very unusual degree of tenderness is found over the 4th, 5th and 6th dorsal spines. X-ray showed a marked hypertrophic osteo-arthritis (see plate).

3. Mrs. S., a woman of 60, with nothing essential in the history other than rare attacks of gall stone colic was first seen four years ago because of precordial pain.

This pain was described as severe in character over the precordium, the sternum and radiating down the left arm. This distress always followed exertion.

Examination revealed an undernourished, frail woman, looking older than her age. There were many infected teeth. The heart was moderately enlarged. The peripheral vessels were tortuous and hard. The lungs were negative. Definite tenderness was elicited over the gall bladder. The spine showed marked rigidity in the cervical and lumbar regions but with no tenderness. Electrocardiograph showed slurring of the R. in all three (3) leads. Blood pressure was 210 mm. Hg. systolic, 115 mm. Hg. diastolic. Urine was negative. Although an evident hypertrophic osteo-arthritis was present, it was believed to be quiescent. The history with the marked sclerosis of the vessels appeared to justify the diagnosis of angina pectoris. The patient was accordingly given nitroglycerine tablets to take for attacks of pain and a theobromine compound to be used constantly. The teeth were extracted. The nitroglycerine was found to completely relieve the attacks and after some time with use of theobromine, her capacity for effort was greatly increased. Two years ago she began complaining of increasing discomfort from the gall bladder; at the same time the precordial pain became constant, aching in character. Nitroglycerine no longer relieved this pain. Similar pains were felt in the right side and in the neck. These pains were constant and interfered with sleep. During this period there were also frequent attacks that could be interpreted as anginal. With the acute infections in the gall bladder, she definitely lost ground and the anginal attacks came on with much less exertion. The pain was so constant and severe during these periods that often it could not be definitely decided whether the pain was of nerve origin or true anginal.

Six months ago she consented to the removal of the gall bladder because she was now having attacks of colic with chills and fever. Shortly after the removal of the gall bladder all the constant pains were relieved. Her cardiac condition is not nearly so good and her anginal attacks are now brought on by much less exertion than when first seen.

As is seen by the last case, the differentiation is not always easy and especially so when a true angina is known to exist. As noted by Gunther

and Kerr the patient notices particularly the pain that occurs on the left because he knows his heart is located in this region and promptly interprets all pain here as being of heart origin.

Because the patient becomes apprehensive from his belief that the pain originates in the heart these pains are often accompanied by other symptoms of a cardiovascular nature.

Palpitation and tachycardia are frequently noted by the patient when he becomes aware of the pain. One patient who suffered sharp stabbing pain near the apex of the heart always had a choking sensation and a fear of impending death.

If an introspective person has been told at some time that he has a heart murmur even though functional, it may be impossible to dissuade him from the idea that the pain is not of cardiac origin.

Angina pectoris in the presence of hypertrophic osteo-arthritis of the spine should be diagnosed when:

1. The attacks follow effort and are of short duration after rest.

2. The individual with an anginal attack regardless of its mildness has a fear of continuing effort and stops of his own accord.

3. Attacks following a heavy meal disappear after emptying the stomach. In this group the history of mild attacks from effort is obtainable.

4. The nocturnal attacks are of similar short duration and a history of pain following effort can be obtained.

5. Anginal attacks always disappear with the administration of nitrites to full physiological effect.

The referred pain of nerve root pressure in hypertrophic osteo-arthritis occurs frequently in individuals under forty years of age whereas angina usually occurs after fifty. The sex distribution is about the same, males predominating in my own experience.

1. The pain is increased by movements of the spine and are steady in character. Sharp stabbing or lancinating pains may be felt at the periphery of nerve distribution.

2. The steady pain or ache is often felt most after exercise and persists for long periods. This has been especially noticeable in business and professional men after a strenuous golf game.

The pain is present the remainder of the day and also often the next.

3. Carefully elicited history reveals similar pain on the right side and usually over other spinal nerves.

4. Déjerine's sign is present especially after coughing or sneezing.

5. Pain is often felt between the shoulder blades, a distribution not encountered in angina pectoris.

6. X-ray shows evidence of hypertrophic changes in the bodies of the vertebrae.

7. The nerve pain of hypertrophic osteo-arthritis of the spine is never relieved by the administration of nitrites.

The significance of certain pains produced by hypertrophic osteo-arthritis of the dorsal spine is discussed in the relation of their similarity to the pain of angina pectoris.

The fact that these and pains produced by other regions of the spine may simulate other diseases of the chest and abdomen is beyond the scope of this article.

830 Ridge Terrace.

DISCUSSION

Dr. Robert James Gay, Chicago: Dr. Sutton's paper is singularly opportune, and, as he is in a position to observe more heart patients than any one of us, his clearcut presentation should be a beneficial lesson. How seldom do we physicians see the actual attack of angina pectoris! In the majority of cases the differential diagnosis hinges on the physical examination alone. The x-ray often fails us when we most need it, because angina-like pains may be present in upper dorsal osteoarthritis for months before the calcareous deposits are of sufficient density to show in the x-ray plate. In an acute exacerbation of osteoarthritis there are areas of hyperesthesia corresponding to the spinal nerve-roots involved. These areas can be nicely brought out by very lightly stroking the skin with the ball of the index finger. This is a very important point of differentiation between the radicular syndrome of osteoarthritis and true angina pectoris. Very lately Levine has suggested and executed, as a diagnostic test in doubtful angina cases, the hypodermic injection of 1 c.c. epinephrin solution, such an injection bringing on a typical anginal attack in true angina pectoris cases only. Such a test is certainly pushing "close to the edge." One wonders whether Levine would like to have this test tried on himself if he were a "doubtful case."

Dr. Don Sutton, Chicago (closing): I should like to emphasize again that this diagnosis is relatively simple, and one that should not be overlooked. I want also to call attention to the fact that I have mentioned only one phase of referred pain. This referred pain may also simulate any of the painful conditions

in the chest and many of those occurring in the abdomen. Kerr and Gunther, in the *Archives of Internal Medicine*, cover the entire field of referred pain in hypertrophic osteoarthritis of the spine.

THE MANAGEMENT OF DEBILITATED SURGICAL PATIENTS*

R. K. PACKARD, M. D.

CHICAGO

Management of debilitated surgical cases is of equal interest to the surgeon, internist, specialist and general practitioner. Mortality and morbidity in surgical practice has decreased very markedly in the last ten years, notwithstanding the fact that the field of surgery is constantly broadening and a greater number of what we formerly considered bad surgical risks are now being operated on. This decrease in mortality and morbidity has not been so much the result of better surgical technic as it is a result of better pre-operative, operative and post-operative management, based largely upon our increased knowledge of the physiology, chemistry and function of the body. A large portion of this knowledge and improvement in surgical practice has come from the research worker and internist. Through the combined efforts of the research worker, internist and surgeon, there has been developed a definite program of management for surgical cases that were heretofore considered hazardous risks and still it is largely from this group that our present surgical mortality comes. The management of debilitated surgical cases is a plea for the individualization of surgical cases and a direct effort to classify our bad surgical risks and then to outline a management according to the handicap encountered in each case. We know that there are many definite surgical risks that have very definite medical complications and if we attack the surgical problem and leave unguarded or untreated the medical aspect, we are going to increase both surgical mortality and morbidity. It is well known that the surgical mortality rate in institutions having a well balanced staff working in full cooperation is lower than in those institutions where such conditions do not prevail. It might well be said, and Dr. Frank Leahy has made this statement, that the standard of the hospital can be determined by the number of consultations held, and that

men with the greatest experience call their associates in consultation most frequently.

The debilitated or handicapped surgical patient requires group council. One might ask what constitutes a debilitated surgical case. That must, of course, in all instances be left to the surgeon and internist to determine. While it is true that the majority of these cases occur in the later periods of life, this is not necessarily the case. A child may have an acute appendicitis requiring surgical attention that may be complicated with an organic heart lesion bordering on or having decompensation, or diabetes may be present which necessarily adds to the debility of the child. Age alone, therefore, is not a qualifying factor. The specialist is not exempted from studying his patients for evidences of debility as was recently exemplified by a case admitted to the hospital for an emergency mastoid operation. The routine hospital examination revealed a very serious diabetic condition. The operation was postponed, the internist called and prompt diabetic treatment instituted to prepare that patient for operation as soon as possible. The patient was operated on the following day with an uneventful recovery and still remains under diabetic management. This probably illustrates the decrease in both surgical mortality and morbidity in the handling of debilitated cases.

Time does not allow a discussion of the management of the various conditions and complications making up our debilitated cases. The management of all cases might come under two general headings; first, those cases classed as emergency operations where the immediate concern is the saving of life and where little time in many instances can be given to pre-operative care; second, those cases having a surgical lesion requiring surgical intervention not only to relieve the patient of distressing symptoms, but to restore them to normal health.

In the first group long continued study is not permitted, but in spite of that many precautions may be taken at once in the management of those cases to render the patient a better risk.

In the second group there is little excuse for not exercising all known precautions in the management of those cases which are debilitated or handicapped.

The general management should come under six distinct headings in all debilitated cases.

*Read before Section on Surgery, Illinois State Medical Society meeting May 20, 1930.

First, a complete history of the case with physical examination reported. While much has been written along this line, there is still a tendency to either be lax or ignore the history of the patient and to depend too largely upon laboratory examinations.

Second, routine laboratory work such as urinalysis, red, white, differential and hemoglobin blood examination and Wassermann tests. Such additional laboratory work should be pursued as the individual case seems to warrant, including necessary x-ray examination where indicated.

Third, pre-operative management. Having arrived at a diagnosis and having determined that this patient constitutes a debilitated or handicapped surgical risk by anyone of the various conditions which may be present, then a very definite plan of pre-operative management should be pursued to render this patient a better and more normal surgical risk. If under such pre-operative management the patient does not improve to a point where we feel that they are a fair surgical risk, we are not justified in operating unless it is an absolute emergency case.

Fourth, the operation itself. Considerable thought and planning should be given to the operation in debilitated cases. In many instances, perhaps we have no choice in the type of operation as regards its influences on mortality. In many we can make a choice as in thyroidectomy or prostatectomy, whether we elect to do a one or two-stage operation. Also, in cases of pyloric obstruction due to healed ulcers we may elect different types of operation. Therefore, it would seem feasible that in debilitated cases the simplest operation should be the one of choice. Recently I heard one of our foremost surgeons make this remark regarding a death following subtotal thyroidectomy: "This should have been a two-stage operation." We have to have a death every so often to keep our judgment good.

Fifth, the anesthetic. There has been much in the literature of late years relative to various forms of anesthesia. In many instances, hospitals and surgeons follow one type of anesthesia. There can be no doubt that there are many debilitated cases in which there is and should be a choice of anesthesia. There are definite indications, we believe, in many instances, and that the newer form or rather improved methods in spinal anesthesia, rectal anesthesia, block anesthesia and drug anesthesia have a definite place

in the management of debilitated and handicapped surgical cases.

Sixth, post-operative care. Both the pre-operative and post-operative management may be equally or more important than the operation itself. Hospitals are usually well supplied with pre-operative and post-operative routine orders. The usual instructions to the interns in many instances as regards both, is to give the routine care. This should not apply to the debilitated case. He should be individualized throughout and he can only be individualized by a systematic program outlined by the surgeon in collaboration with the internist on the case. While there are exceptions it may be accepted as a general rule that a good surgeon is not necessarily a good internist any more than a good internist is not a good surgeon. We speak much of the debilitated and handicapped surgical case needing the services of the best surgeon. It seems to me that he needs equally as well the services of a good internist, for good surgery is not just a matter of technique and knowledge of surgical pathology, however brilliant. It is a problem both of mortality and morbidity.

Among the more frequent conditions which the surgeon must be on his guard to detect which render a patient debilitated or handicapped are the following and perhaps somewhat in the frequency as outlined.

First, cardio-vascular lesions. These conditions may vary in degree from a mild myocardial change to the more severe changes of mitral, aortic and other valvular lesions and auricular fibrillation. In many instances there are myocardial changes present in which the physical examination reveals nothing and the electrocardiogram is negative and we are very apt to overlook these conditions except as they are gained by a careful history which in many cases will only denote a mild dyspnea on exertion. These cases are frequent in gall bladder disease in patients past middle life and not at all infrequent even in younger people in gall bladder disease. In fact, mortality following gall bladder surgery from cardiac failure has prompted us to use pre-operative measures in the form of digitalization of the heart almost as a routine in our gall bladder cases, especially in those past middle life. Leahy has repeatedly called our attention to cardiovascular lesions and their ability to withstand surgery if they have the proper

management. Long continued chronic infections from whatever source should always put us on our guard to make a careful search by all means at our command for evidences of cardiovascular lesions.

Second, secondary anemia. A hemoglobin of below 50 or a red blood count below 3,000,000 should be considered a danger signal as regards surgical procedure. This is true whether it be of acute or insidious onset. Except in emergencies where time does not permit, transfusion should be used preceding operation and if this is not possible, acacia and sodium chloride solutions may be used intravenously to take its place.

This solution has been used at various clinics with excellent results.

Third, dehydration, from all sources, especially those associated with intestinal obstruction and frequently in other acute abdominal conditions; the restoration of fluids should always precede operation; the type of fluids used to be determined by the presence of an acidosis or an alkalosis. Dehydration and toxemia occurring in intestinal obstruction should always have immediate pre-operative treatment even though they constitute our most acute surgical lesions of the abdomen. Haden and Orr have repeatedly pointed out the necessity of determining the presence of acidosis or alkalosis in these cases by the determination of the CO_2 combining power of the blood and decrease in chlorides, and they have pointed out the necessity of the use of hypertonic salt solution in alkalosis and alkalies in acidosis. These observations with prompt pre-operative and post-operative treatment are necessary in such cases. At least 3000 c.c. of fluid should be given dehydrated patients every 24 hours. The methods may vary in various cases as may the solution used.

Fourth, emaciation. Emaciation of marked degree, especially occurring in obstructive lesions of the stomach, in acute thyroid conditions and diabetes, should have definite pre-operative management. It might be stated as a general rule that the loss of weight should definitely be stopped and an increase take place before surgical intervention is pursued.

Fifth, altered kidney function. Much has been contributed to this subject by the genito-urinary surgeons and the decrease in mortality following prostatectomy has been largely a result of restoring kidney function to normal before operative

procedure takes place. In patients past middle life major surgical procedures should be preceded by a careful genito-urinary examination, and if kidney function is below a certain normal level, surgery should be postponed.

Sixth, diabetes. Insulin has given new life to diabetic surgery. However, many diabetics at the present time are undergoing surgery poorly prepared because the surgeon attempts to outline diabetic management.

Seventh, shock. Shock in the acute and traumatic lesions requires frequently pre-operative, operative and post-operative management. The causes of shock are not yet definitely known and undoubtedly there is much to be learned regarding its treatment. Patients in a stage of shock should not be operated on unless shock can be overcome. In bad surgical risks where the type of operation is such that a long period of time is necessary for its completion, treatment for shock should be instituted preceding and during the operation by the administration of water and glucose or other fluids.

Eighth, jaundice. The jaundiced patient constitutes a definite handicap and again pre-operative, operative and post-operative management come into play. The prevention of hemorrhage by blood transfusion, pre-operatively and post-operatively, is probably our best treatment. The choice of operation is extremely important in these cases and the simplest form of operation is the operation of choice, always, of course, dependent upon the pathology present.

Ninth, age. Age must always be reckoned with, as the death rate jumped from 2.5 per cent. for sixty years to 17.2 at eighty. The risk rises so rapidly after sixty years of age as to raise the question as to the advisability of only operating on those cases where the condition is producing severe types of symptoms or emergencies.

The following case histories may more definitely establish management of debilitated cases of various types.

Mrs. K., age 53 years, admitted to the Woodlawn Hospital, Feb. 19, 1929. Admittance diagnosis first, exophthalmic goiter; second, diabetes; third, auricular fibrillation with beginning cardiac decompensation. History of acute onset of thyroid symptoms; basal metabolism plus 87, pulse 140, respiration 24, temperature 98.6. Loss of 40 pounds in three months; blood normal, Wassermann negative; blood sugar, Feb. 22, 195; blood sugar, March 7, 103; urine examination, Feb. 14, before admittance to the hospital, sugar posi-

tive, albumin, trace; acetone, trace; Feb. 24, sugar trace, acetone absent. Pre-operative management: Lugol's solutions 15 drops three times a day; powdered digitalis grains 3 three times a day. Internist in charge of diabetic management. Operation, March 8, local anesthesia, right lobectomy. Post-operative treatment; usual post-operative thyroid care with diabetic management. Recovery uneventful, discharged March 26, 1929. Present condition, gained 40 pounds, basal metabolic rate, plus 5; under diabetic management.

You will note in this case only one lobe was removed. It may be necessary to remove the other lobe at a later date. We felt this an indication for two-stage operation.

Mr. F., aged 63 years. Admitted to the Woodlawn Hospital, October 18, 1929. Admittance diagnosis: chronic cholecystitis and cholelithiasis, chronic myocarditis. Typical history of gall bladder colic, cholecystogram confirming the diagnosis. Blood normal, Wassermann negative. Genito-urinary specialist examined the patient because of some mild urinary symptoms; examination revealed normal kidney function; cardiologist called for cardiac examination and diagnosis of chronic myocarditis made. The above examinations were made previous to the patient's being admitted for operation on October 18. Pre-operative management lacto-dextrin, ounce 1 after meals; tincture of digitalis mm. 15, three times a day. Operated on Oct. 24, 1929, spinal anesthesia. Chronic cholecystitis, 150 gall stones in the gall bladder with adhesions between the gall bladder and first and second portions of the duodenum. Operation, cholecystectomy. 100 grams of glucose in 1000 c. c. of water given subcutaneously during operation. Post-operative treatment; digitalis ampules 1 every four hours for two days and then gradually decreased; glucose in water subcutaneously afternoon of the operation and repeated the next morning. Uneventful recovery; patient dismissed November 23, 1929.

Mr. T., aged 73 years, admitted November 12, 1929. Referred by Dr. Cousins. Admittance diagnosis: chronic cholecystitis and cholelithiasis, chronic myocarditis, complications, marked dehydration and emaciation. History: typical of gall bladder colic. Diagnosis confirmed by cholecystogram. Physical examination was essentially negative, diagnosis of chronic myocarditis being made on the history and not the physical examination. Blood normal, Wassermann negative. Trace of albumin in the urine, blood chemistry normal. No jaundice present. Pre-operative treatment: lactodextrin, 1 ounce after meals; tincture of digitalis mm. 15 three times a day; 1000 c. c. of sterile water with 100 grams of glucose given subcutaneously preceding operation. Operation November 16, spinal anesthesia, cholecystectomy for cholecystitis and cholelithiasis. Post-operative treatment; fluids by the mouth at once; digifolin ampules 1 every four hours; glucose and water subcutaneously 1000 c. c. with 100 grams of glucose every twelve hours for two days. This patient had a rather stormy period of convalescence, was somewhat

delirious for about forty-eight hours and then went on to an uneventful recovery.

Mrs. R., aged 57 years. Admitted Woodlawn Hospital October 11, 1926. Referred by Dr. Barnsback. Admittance diagnosis: Incarcerated omental hernia (ventral). Vomiting 4 days preceding admittance. Ventral hernia for 35 years with history of several previous attacks of vomiting. Refused operation previously because of excessive obesity and difficult breathing. Weight 260 pounds. Having B. M. with enema and passing flatus, though markedly distended. Blood normal, except for slight leukocytosis. CO₂ combining power showed mild alkalosis. Vomiting continued 4 days after admittance.

Pre-operative management: Gastric lavage. Rectal feeding, 100 g. m. glucose in 1000 c. c. normal saline solution twice daily. Vomiting ceased fourth day, and general conditions improved. Tincture digitalis m. 20—T. I. D. three days preceding operation. Operation, October 21, 1929. Spinal anesthesia—omental hernia—repair of abdominal wall, 100 g. m. glucose in 1000 c. c. normal saline given during operation.

Post-operative treatment same as two previous cases. Uneventful recovery.

Mr. B. Aged 53 years. Admitted July 17, 1929. Referred by Dr. Doyle. Admittance diagnosis by Dr. Doyle 1, Exophthalmic goiter; 2, Locomotor ataxia; 3, Auricular fibrillation. History: This patient had been under treatment for locomotor ataxia for last six years. Records have been obtained from a sanitarium where he was a patient six years ago. About six months ago the patient noticed a change in his heart and complained of a rapid heart and palpitation associated with nervousness and exhaustion. These symptoms grew more serious and at the time Dr. Doyle saw this patient he had lost 56 pounds in six months and was unable to be up and about because of exhaustion; had profuse sweating; marked exhaustion; marked tachycardia; marked tremor associated with exophthalmos and auricular fibrillation; pulse 160; respiration 30; Argyll-Robertson pupil; absent knee jerk; no enlargement of the thyroid gland; blood Wassermann negative at this time. This patient was examined by another internist; by a genito-urinary specialist; by a neurologist and eye, ear, nose and throat specialist.

Pre-operative management: Lugols min. 20 P. C., Digitalis; ampule 1 to 3 times a day; Tryparsamide injection, fluids crowded, nourishing diet. He made some definite improvement under this regime. He was operated on August 5 under local anesthesia. Sub-total thyroidectomy.

Given 100 grams of glucose in 1000 c. c. of water subcutaneously during the operation; usual post-operative thyroid care; glucose and water given twice daily for two post-operative days with small doses of morphine at frequent intervals to prevent thyroid crisis. The patient was dismissed August 17, 1929. He weighed 80 pounds when he entered the hospital; at the present time weighs 150.

Mr. S. Aged 65 years. Admitted October 21, 1929.

Referred by Dr. Christie. Admittance diagnosis: 1, Pyloric obstruction—chronic myocarditis.

History: Constant vomiting soon after injection of food for the past month and constantly increasing in severity with a past history suggestive of ulcer for the past 15 years. X-ray examination showed pyloric obstruction with no evidence of malignancy; Wassermann negative; blood only slightly below normal. Urine examined on October 21 showed albumin and few hyalin casts; October 28 albumin trace and no casts; urinary output normal; N. P. N. normal.

Physical examination essentially negative with the exception of extreme loss of weight with flabby tissues and marked exhaustion. Pulse, temperature and respiration were normal.

Pre-operative treatment: 1, Rectal feedings; 2, Glucose, 100 grams with 1000 c. c. of water subcutaneously October 23; glucose, 100 grams in 1000 c. c. of water on the morning of October 24; 3, Digitalis by hypodigafoline every four hours two days preceding the operation; 4, Gastric lavage preceding the operation. Operated on October 24—spinal anesthesia. Gastrojejunostomy for healed obstructive ulcers at junction of duodenum and pylorus.

Post-operative treatment: Glucose, 100 grams with 1000 c. c. of water on immediately returning to the room; rectal feedings continued for 24 hours; digitalis continued and the usual post-operative treatment. Recovery uneventful and dismissed November 14.

THE COUNTY MEDICAL SOCIETY AND THE PRACTICING PHYSICIAN*

LEE O. FRECH, M. D.
DECATUR, ILL.

For a long time physicians have banded themselves together and have called such organizations Medical Societies.

In olden times such organizations were most essential, for those were the days when communication was quite impossible, when learning depended principally upon interpretation of events and upon one's own practical experience in the practice of medicine.

Information was then gained, chiefly, by contact with neighbors, was in a sense a hearsay process. Many of our very best oldtime physicians had never attended medical college but obtained their medical knowledge from a preceptor and from such few simple and antique medical books as were accessible.

Not being able to gain ready contact with those at a distance and sensing that such contact was valuable and almost necessary, medical

organizations were founded which, at stated monthly or yearly intervals, provided the necessary opportunity for individual physicians to assemble and derive such benefits as men from other communities had to offer.

In those days the practice of medicine was considered an art, pure and simple. The one chief aim of those men was to heal the sick. A little later when medical men became better organized medicine changed from an art to a profession and has continued so, in the minds of most medical men, even up to the present time.

Medical societies were organized for the chief purpose of learning, of acquiring a better knowledge of medical practice; however, I acknowledge the fact that they were also for the purpose of promulgating a better and more friendly feeling between medical men. The State Medical Society, in a sense, might be considered the father of all our medical societies and at this time has as its units the local or county medical societies.

Medicine has changed. It has become a highly scientific profession having taken its place along with the other highly developed sciences. Our programs have changed from the practical of old to a conglomeration of scientific, technical and experimental. These facts I do not descry, for there is a place, a very necessary place, for such programs. However, it is my opinion that such programs should be confined to those organizations which deal with the specialties and, more or less, to the state and national organizations. Such programs may be good and well for the medical scientist, the technician and the experimental man of medicine, all of whom are specialists, but what of the medical man of practice, the bedside man, the man who contacts the family. Is he getting what he needs, what is the best for him or what is good for his patient?

The man of every-day practice seeks highly scientific data because he feels that he must keep up the profession, he wants experimental medicine because it is interesting to him, and he accepts technical medicine because it is forced upon him. It is probably true that he does not want every-day, simple, commonplace facts of practical medicine because he feels that he is well versed in this type of learning. But is he? Not all physicians, even today, have a comprehensive working knowledge of medicine.

It is my belief that most of us seek the big

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things of medicine, the new, the complex, the rare and that many men overlook the details, the small and the commonplace things of practice. These facts are due to our teaching, to our learning and to our highly scientific programs. The responsibility for these faults lies partially, at least, with the county medical society. The business of the local society is to teach us the practice and not the science of medicine.

Let us plead then with the county medical society to give us programs which are a little more rational and a little less hypothetical. If this is done we will lose none of the theoretical because it is all published in our medical journals from month to month.

The practice of medicine has changed from the old to the new; from the practical to the scientific from the simple to the complex; from the basic to the hypothetical; and it has changed from an art to a profession. Nor is this the extent of its changes. The greatest of all changes is, and has been for some time, taking place. Medicine is changing from a profession to a business, in part. Many causes are bringing about this change but the most important of them is our changing economic conditions. Most physicians in practice have recognized the importance, if not the necessity, of accepting the commercial as well as the professional viewpoint of practice, but as yet the commercial aspect has not received the attention nor has it been developed to the level of the scientific. Can anyone, today, deny the fact that the practice of medicine is partially a commercial or business proposition or that most men practice medicine as a means of livelihood? Still many medical men frown upon the idea when medicine is mentioned as a business.

The county medical society has accomplished much in attaining for medicine the scientific but in other ways it has been woefully lacking.

Medical societies were organized primarily to promote scientific attainments but in our ever-changing conditions of today they seem to have forgotten that changes in practice demand innovations which will benefit the physician generally and aid in the well-being of his family. The county medical society of today is not much different from that of yesterday, but its members are vastly different from those of the past.

Does the county medical society function along all lines as it should and does it give

everything to the physician which he seeks? If economic conditions demand that the practice of medicine be a business as well as a profession then our local medical societies should teach their members something along the lines of business administration, for I am quite sure that most of us need such training.

Programs which deal with post-graduate courses should be a part of our routine in order that more intense interest may be created. Most all of us can well afford to spend a small part of our time in accepting such benefits as are obtained in this way. Reviews of the latest and best medical literature should be given at frequent intervals, for it is impossible for one to cover the ground with any thoroughness in his everyday reading. Some time could be given profitably, at times, to a discussion of the latest and best types of office furniture and furnishings also to practical office arrangements, and to necessary surgical and medical equipment.

Drugs, as well as the other numerous modes of treatment, would furnish a very interesting program, especially so if conducted by one well versed along lines of therapy.

Automotive equipment should come in for its share of discussion for the well known reason that automobiles constitute a large part of our overhead and are, in many cases, a big and unnecessary item of expense, all of which could be avoided by knowledge obtained through the other fellow's mistake.

How many of us can show a set of books and office records and not blush with shame? Good bookkeeping and reliable records are a valuable and necessary part of any business and I feel quite certain that most of us could profit greatly if the county society would only permit someone, who is capable, to appear on its program and inform us correctly. And, too, there is the important but time-worn subject of collections about which most physicians know very little. After all, what is the use of carrying on in practice if physicians cannot collect at least enough to live decently and to preserve them in their old age? Of all men physicians are more laughed at, and neglected most, because of their inefficiency in collecting accounts. There is absolutely no excuse for this condition. Please, county medical society, bring in an expert and teach us how others do it.

This is the day of the budget system and

budgets in medical practice will work just as efficiently as in other businesses or in the home. You, county medical society, can score here again and you can get for yourself a large attendance and an attentive hearing.

The subject of insurance, in all of its different forms, would furnish a splendid program as well as a profitable one.

Investments could well be gone over several times. I feel that physicians, as a whole, save so little money that they should stop buying oil stocks and playing the stock market and use more wisdom in their small but important investments. Why does our county society let us go on and foolishly waste our money in this way? Plenty of capable men can give us judicious advice on this subject.

Most physicians take vacations at least once each year, or should, and their experience would be profitable to the membership of local societies. There are so many places of beauty to be seen and so great a variance of cost in seeing them that the whole thing is rather perplexing unless first hand information can be obtained. Why cannot the local society contribute its share on vacations?

Contact of members in a social way is lacking in most medical societies. There certainly is no better method of cultivating friendships, confidence and good will among brother physicians. A smoker or a buffet luncheon with a variety program (non-medical) or a picnic certainly would accomplish much. If a picnic, give the wives and children a chance.

The county medical society is the official and public agent of each and all of its members. It fills a place in the community which cannot be filled by the individual; it has a certain prestige which is wanting with the individual; it has power which the individual lacks, and it commands respect which the individual cannot hope for. In the county medical society we have an agent which can perform a service and demand a favor that individually is impossible. There is no good nor logical reason why its influence should not be more keenly felt by certain lay groups who at the present time are endeavoring, and successfully so, to dominate certain types of medical practice and health education.

It is no common secret that lay dictation is usurping medical rights and functions and if so continued bids fair to crush medical authority in

health matters. In these matters the county medical society should take cognizance of this fact, stand on its feet, and fight. Lay dictation has been gaining in public favor for some time; lay health authorities have been making their influence felt for many months; lay groups have been instigating and carrying out health programs; lay groups are dominating the school health work, the pre-school clinic, crippled children's clinics; lay groups are offering their health advice through the public press; lay groups are sponsoring child welfare and nutrition clinics; lay groups are dictating to, if not controlling, industrial surgery; lay groups are advocating health insurance, maternity bills, anti-vivisection and contraception; lay groups are practicing medicine under the protection of large universities; and lay groups have even advocated state medicine.

What has the county medical society done about it? Nothing. It has left everything to someone higher up, but, it is my opinion that, if lay dictation is stopped it will be through the efforts of the county society and then only after a long, hard struggle.

It is high time that policies be formulated, that matters be discussed and that the power of health control be delivered back into the hands most capable of handling such matters—the county medical society. Matters of such importance should be presented and discussed before the local county society, openly and without fear, and it should be done before medical prestige is entirely gone.

Things other than scientific programs are needed and if we, the county society, do not soon wake up there will be no further need for scientific programs nor necessity for scientific medicine.

Why, you ask, have these things taken place? The answer is simple. It is because of inertia and lack of interest in such matters by members and the county medical society. There are so many matters of high importance that confront us that you secretaries should have no difficulty in keeping your members interested.

The program herein outlined can hardly be carried on with the excessively low rate of dues now paid, but why should not medical men be willing to pay dues commensurate with the benefits derived. Medicine is our life work, our very existence, and why should we not pay a suitable

tax to carry on? We pay well for other privileges, oftentimes way out of proportion to value received. It is my belief that our members will pay, and pay well and willingly, if results justify it.

A medical society, to carry on a broad program, necessarily needs a good secretary. Quite a few societies make the mistake of changing their secretary every year or so. Every society needs an experienced secretary, one who is aggressive and alert, one who can and does interpret the needs of his society, and one who will serve as long as he can be useful to his organization. The delegate and alternate to the state society should also be men of high type and intellect and should be returned over a period of time. In this way only can the local society get the best and truest type of representation and in this way only can the local society give its best and most intelligent type of co-operation to the state society.

To summarize:

1. The scientific program should be made as practical and matter of fact as possible.

2. We must recognize the fact that medicine is a business as well as a profession, and in so doing, strive to improve the economic phase until it is on a par with the scientific.

3. Programs dealing with the business end of medicine and the profession should be awarded part of the medical societies' time and should touch on the economic as well as the scientific.

4. The social and recreational part of the physician's life should be dealt with by the society.

5. The county medical society should outline and carry out policies for the control of public health work.

6. If the county medical society of tomorrow functions as it should it is going to reach out and aid its members not only from the standpoint of professional wisdom but it is going to play an important part in all their activities, it is going to touch their business from all the important angles.

7. County medical society dues should be sufficient to justify a broad program and insure a variable activity, both of which are so necessary and vital to the future existence of medicine.

Standard Life Building.

DISCUSSION

Dr. Elizabeth R. Miner, Macomb: The first thing I want to ask is, who is to instruct the medical societies how to do all these things? It would be a wonderful work if they could give us advice on collections, on business, on other things in which we are babes in the woods. Investments, for instance—many of us would have been happy this last year to know something accurate about investments. Whom shall we ask? One banker tells us he cannot give us advice on investments—another banker advises us to invest in his enterprises which may or may not be a good investment. How are we to educate our school teachers? Some of ours have life jobs. They are wedded to the osteopath. It is a form of practice that does some good, perhaps, but what are we going to do about it? How about public health work? We are anxious to do all we can to promote it, but if we turn it over to the public health man what shall we do? That is a question for the young man to face more than the older physician. Then there is this question of advertising. I saw a nice line of advertising for a county society. I was in a strange community last winter and noticed that every two weeks there appeared in the newspaper a list of the names of all the members of the county society, headed "Ethical Physicians and Members of the County Medical Society." That appealed to me as being a dignified and satisfactory form of advertising.

Dr. Lee O. Frech, Decatur (closing): Dr. Miner asked us who would instruct physicians on certain points when needed. The answer is, someone who has authority and capability along these lines. Or, to put it in another way, we will call in a man who knows these things. We have men in our lines and in every line who know them—collections—men who are collecting as high as 98 per cent. of their accounts; they could tell us. If necessary we can call on men outside the profession to tell us, just as we are called to teach the laity on medical subjects. You will have to get somebody to advise you on investments who knows financial matters. You do not see many bankers or building and loan officers get caught in the stock market. Most of us know very little about investments, and it would take a very capable man to tell us about this particular subject. I feel that public health should be worked out in co-operation with the state department of public health, and I think they would be only too glad to co-operate if they could get the medical societies to show a genuine interest in the line of public health. The members usually wish to go at it in a haphazard manner. If they feel like reporting their cases they do so—if not, they do not; but that would have to be worked out as part of the work of the medical society. Each medical society and public health organization should control its own community, and if not capable of doing so there is something lacking in the medical society that should be instituted. It is working along the wrong lines.

I was afraid I might be misunderstood in my remarks about the business end of medicine. It is not my feel-

ing that it should be made the prominent part of medical work. The scientific end of practice is of course the outstanding factor of the profession. But I bring in the business end because it is so sadly neglected that I feel we could sacrifice some of our program, for progress in science, for progress along business lines. Dr. Mundt mentioned the difficulty of getting attendance. You must have that to put these things over. The point I tried to bring out was that you should give your members a program along lines which will interest the men you want to attract. We would catch most of them in one way or another. It seems to me that attendance is mostly a matter of habit; if a man gets the habit of coming he will probably be a good member, and once the habit is established you can depend on him. Medical economics is probably a distasteful subject to most men, but it has to be faced. It is playing a more and more prominent part in the activities of every physician's life. We will have to face it some time and might as well do it now. It may be a long time before physicians will realize it is important, but we should be working on the problem now. The same thing is true with yearly health examinations. This has been advocated for years, but so far we have not made much progress. It is still in its infancy, and cannot by any means be called a success as yet. My feeling is that the medical society must interest its members in that one factor more than almost anything else. We have held to scientific things all these years and I think we should continue to do so, but medicine should not hold strictly to science when so many other practical problems, that must and should be solved by the profession, are facing us.

TULAREMIA REPORT OF CASE IN CHICAGO

H. G. LEON, M. D.

CHICAGO

History: The patient, Mrs. K. M., presented herself for examination on January 5, 1929, giving the following history. Age, 29 years; occupation, waitress; weight, 153 lbs. On November 10, 1928, the patient noted a swelling of the epitrochlear glands of the right elbow. The swelling was associated with a persistent, mild pain. On November 17 the patient first complained of a continuous aching pain in the distal phalanx of the ring finger of the right hand, pain and tenderness being more marked on the dorsal surface. Four days afterward there occurred severe chills; aching pains in the back and limbs, along with night sweats. The temperature was 105 degrees F. A small ulceration appeared red on the right ring finger, dorsal aspect of the distal phalanx. In three weeks it

assumed the appearance of an indolent ulcer 10 mm in size with punched out and serrated edges. The ulcer increased to about 15 mm the 4th week and remained stationary for the following 6 weeks. Throughout this period the patient complained of intermittent attacks of chills, profuse sweatings and rise of temperature, distressing cough, more aggravating at night and often associated with pain in the scapular region radiating anteriorly to the epigastrium and to the sides in the region of the lower ribs. Nausea was present but no vomiting, anorexia, general weakness, mental dullness, inability to attend her duties as usual; loss of weight, 20 pounds. The swelling in the epitrochlear gland was opened on December 1, 1928, and a considerable amount of thick, greenish pus was obtained. The incision was allowed to close without drainage. Healing ulcer was first noted in the middle of the sixth week, with the appearance of a thin, grayish blue membrane. The attending physician was treating the patient for "Rheumoid."

On January 2, 1929, the patient was discharged as cured, but the doctor's attention was called to another swelling appearing in the medial aspect of the arm near the axilla. She was instructed to return in a few days, if the swelling had not disappeared by that time.

Examination: When I first saw the patient, January 5, 1929, she was still discharging from the incision and still complaining of pain in the right axilla. Her temperature was 99.2 degrees F; pulse, 72; systolic blood pressure, 126; diastolic, 70. There was a marked enlargement of the glands on the medial surface of the right arm about 2 inches below the axilla. The glands were slightly adherent to the muscular tissue, but there was no fluctuation or tenderness. Examination of the lungs and heart failed to reveal any evidence of pathology. The patient was very weak and unable to stand on her feet for any length of time. On the same day she was ordered to the Belmont Hospital and subjected to further examinations and laboratory tests.

Laboratory Examination: Urinalysis shows a turbid urine, with many pus cells and bladder epithelium, but no casts and no traces of albumen or sugar. Blood examination did not reveal any typical picture. The total leucocytic count was 12,400; polymorphonuclears, 71 per cent.,

large lymphocytes, 16 per cent., small lymphocytes, 12 per cent., transitional, 1 per cent., erythrocytes, 5,500,000 per cm, hemoglobin, 80 per cent. Radiographic and fluoroscopic examination of the chest did not reveal any evidence of mediastinal involvement. Blood Wassermann negative.

Later Course: The patient was strongly impressed with the resemblance of her ailment and Hodgkin's disease, her mother having died of such disease several years ago. Upon the history of the case, its clinical characteristics and following a rigid procedure for the exclusions of similar conditions, a tentative diagnosis of the tularemia was made and the disease reported as such to the Health Department of Chicago. After much questioning the patient admitted having partially cleaned a wild rabbit purchased in a butcher shop.

Treatment: On January 31, the axillary glands (right side) became enlarged, with a pin point redness and slight fluctuation. The swelling was incised, two ounces of thick tenacious, greenish pus removed, the wound cauterized with carbolic acid and drained. The epitrochlear incision was also carbolized and drained. Absolute rest in bed was ordered, potassium iodide administered (gr. 10 T.I.D.) and tonics. The wounds healed completely in two weeks and the patient has been well since then.

The diagnosis was confirmed by the report of Dr. G. W. McCoy, Director of Hygienic Laboratory at Washington, received January 31, 1929, and stating that the agglutination test with the patient's serum was positive for the B. Tularemia in dilution of 1:640.

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THE SYMPOSIUM OF MENTALITY*

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Do you know that the most realistic sentence of medical literature was uttered by the German pathologist Virchow, "Everything from a cell?" We know from this aggregation of the cells that the body is composed of two hundred bones, two hundred and thirty joints and two hundred and sixty pairs of muscles.

Do you know that the evolution of the nervous system—most vital—occurs during child-

hood, pubescence, and adolescence, and that the brain approximately attains its ultimate weight by the seventh year, the most rapid growth being between the first and fourth year?

It has been reliably stated that of the seven thousand infants born each year in the United States, about two hundred and seventy, or one in twenty-six, eventually become incapacitated by abnormalities of the mind.

Oliver Wendell Holmes stated: "Every man is an omnibus in which all his ancestors are seated." It is said that morons possess the instinct of an adult but the self-control of a child. In psychiatry there are two divisions or defects that can be transmitted from generation to generation. These are dementia precox and manic depressive psychosis, the other forms of mental symptoms in diseases are basically somatic.

Paresis, although characterized by a great variety of mental symptoms, is not a mental disease. The mental phase occurs in the course of a luetic infection.

Epilepsy can no longer be regarded as hereditary; it is a syndrome, not a disease. It is not a disruptive cortical discharge. It is well known that either tumor, syphilis, trauma, toxic states or cerebral arteriosclerosis may be the essential cause or factor.

In the feeble-minded we know that certain forms are probably germ plasm defects, but the proportion is small. We do know that environmental and prenatal influences, infections and trauma are the predetermining causes, the effects of which are probably not handed down.

Old age is the final epoch in the cycle of life and it is inevitable. You may honor and dignify it but you cannot escape it, "many are born old and some old are young." The mental faculties which each individual has to develop for himself are cognition, memory, judgment, reason, imagination and association.

Emotions and impulses are essentially the same thing as instincts, naturally therefore, they play a tremendous part in the study of sanity and insanity.

We distinguish between dementias, which occur from faulty development, the kinds called *primary*, and those which result in a formerly normal individual from disease or accident termed *secondary*.

Insanities are mental aberrations. The essential morbid element of a mental disease consists

in a lack of adaptation between the mental faculties and the instincts.

In fact, it is essential to the diagnosis of an insanity that the instinct and the mental faculties shall of themselves be intact and that only the normal relationship between the two shall be broken. Only when with a potentially adequate mentality and normal instinct, and when there is a discord in their interworking, can relational insanity be diagnosed.

These aberrations are called a psychosis when we have an exaggeration of some normal phase of mind. The genuine mental diseases in which there is a real twist—that is a kink between the mental faculties and the instincts—constitute the true insanities.

There should be a good physical inheritance, a healthy diathesis (bodily conditions predisposed to a particular disease); children born of insane, feeble-minded, tubercular, alcoholic, syphilitic, epileptic or neurasthenic parents are at a great disadvantage.

Mental disorders did not play an important part in ancient history owing to the fact that the law of "survival of the fittest" automatically eliminated the insane and defectives. They were stamped out of existence; the Romans threw their unfit from the Tarpeian rock.

Plato, one of the earliest to explain the etiology of mental diseases, said: "There are two kinds of madness—one arising from human diseases, and the other from an inspired deviation from established customs."

Hippocrates thought that bile was carried to the brain and that the brain became heated something like a hot-box.

The average general practitioner looks upon neurological conditions with an attitude of deference; he feels uneasy in their presence and distrusts his own diagnosis and judgment concerning them, and feels greatly relieved when he can unshoulder them upon one who makes a specialty of this class of ailments.

From observation we know that the percentage of patients under 15 years of age in institutions is very small, and that as adult life is reached the rate rapidly increases. During the period of middle life the increase becomes less marked and in the years of old age the increase is again accelerated.

Willis, Prochaska, and Holler were the first to suspect a relation between insanity and the path-

ological changes in the brain, but they never got anywhere with this belief.

Galen believed with other writers in the influence of the moon. But our noted Dr. Rush, of Rush Medical College, had doubts about the moon. He thought perhaps a certain condition of the air of light and darkness had some relation to mental disorders.

"Tupe and Arnold felt sure it was due to increased density of the cerebral substance, particularly those parts of the brain, by means of which the soul is connected with the body." And we believe, with Dr. Haven Emerson, that we can now see a time, not so very far away, after all, "when the strange child, the worried mother, the confused and depressed workman will appeal to hospitals for relief from the twisted personality, the beaten brain, the incapable self-control, as they now run to them for diabetes, appendicitis or typhoid fever."

Under the type of mental disorder comes a group technically known as the psychoneuroses, many of which are recognized under the guise of a "nervous breakdown," but whose owners refute any implication of a mental element in them. To the psychiatrist, however, nervousness is as much a mental disorder as insanity.

They are the individuals who with no discoverable physical disease, attempt to translate their mental or nervous difficulties into physical ailments.

Individuals, because of their mental make-up and their early parental influence and environment, which are the primary determining causes, habitually carry through life many of the dependent habits and customs of thinking of their childhood, and develop at a later period. The early warning symptoms of approaching mental disease, no matter what the variety, should be early recognized.

Those cases which show disorder of thought, as delusions and hallucinations beginning at the adolescent period and having a bad prognosis, are the most important of mental conditions. These conditions imply on the part of the public some knowledge of what these symptoms are.

Until the stigma, ignorance and superstition that surround the mentally sick is dispelled and until mental disorders are accepted as a disease and not a disgrace, these conditions cannot become effective or receive the proper help.

TREATMENT OF INJURIES OF THE EYE*

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The preservation of the eyeball and the eyelids is a problem that often taxes the highest surgical skill of the ophthalmologist. Nature has wisely and cleverly protected the organ of sight by placing the eye in a bony cavity with a curtain of skin and cartilage to protect the anterior surface. Injuries of the eyelids may be of such a nature as to permanently mar the facial appearance of the individual or they may leave unprotected the delicate organ of sight. Precision and exactness in the surgical care of these cases is important.

In repair of the eyelids the surgeon must keep in mind the cosmetic effect, associated with perfect function. To attain this end he must strive to secure perfect coaptation of skin margins and as normal closure of the lids as is possible under the circumstances.

Burns of eyelids endanger the integrity of the eyeball by causing traumatic conjunctivitis with its damaging sequellae. Erosions of the cornea resulting in ulcer and adhesions of the palpebral conjunctiva to the bulbar surface may terminate in the condition known as symblepharon. To prevent if possible such serious consequences the eye should be protected as soon after the injury as possible by the use of oils or ointments to soothe the inflamed surfaces and prevent adhesions. Irrigations with boric acid or biborate of soda and careful observation of the cornea will be necessary to amply protect the eyeball.

Injuries to the eyeball range from a foreign body lightly imbedded in the cornea to deep lacerated or penetrating wounds with loss of vitreous to such a degree that enucleation is necessary. Removal of a foreign body from the cornea is not without danger.

The procedure should be carried out with every precaution against infection. Small particles lodged very lightly upon the corneal surface are easily removed by means of a cotton swab and the remaining wound, if any, heals rapidly.

The removal of small pieces of steel or emery

requires strict adherence to the principles of asepsis. A sharp pointed spud is the ideal instrument to be used in these cases. Two or three drops of a 2 per cent. solution of Butyn or a 4 per cent. solution of cocain should be used. The eye should not be touched until it is sufficiently anesthetized.

The foreign body should be removed with as little damage to the surrounding epithelium as possible. A great aid to exactness is the use of a Beebe or Berger loop. Especially in steel cases is it important that every vestige of the offending material be removed. This refers in particular to the brown ring of dust or more properly iron oxide stain which often remains after the steel is removed. It sometimes happens that a small particle of iron rust remaining after the removal of a foreign body will set up a very violent reaction.

When the foreign body has been deeply imbedded it is often advisable after its removal to put the eye at rest by an ointment of atropine and bichloride of mercury and a protective bandage. After a few hours' rest a hot boric compress aids greatly in the healing process and in a brief space of time complete repair will take place.

Lacerated wounds of the cornea, the result of blows or thrown missiles and especially from the broken glass of windshields as a consequence of automobile accidents, have been on the increase in recent years.

In severe injuries of the cornea involving the iris and ciliary body and the crystalline lens, the question of enucleation must be considered. At present we are not so quick to recommend enucleation as formerly. One likes to be conservative, yet safe.

To enucleate is easy, but to save the eyeball even though the vision has been reduced to light perception should be the aim. Therein lies the real skill of the ophthalmologist. It was believed in the early days that a wound of the cornea involving the iris and ciliary body was considered almost fatal to the injured eye and was so likely to result in sympathetic ophthalmia, that the usual decision was to enucleate. But we know from experience that sympathetic ophthalmia is not as common a condition as was formerly believed and taught but on the contrary it is of rare occurrence. Magitot, writing upon

*Address before the North Shore Branch, Chicago Medical Society, Feb. 4, 1930.

this subject recently, says that in a yearly procession of 7,000 patients at the Lariboisiere Hospital in Paris, he has seen only three or four cases in six years which had the appearance of sympathetic ophthalmia. Enucleation is the surest prevention for sympathetic ophthalmia, as this permanently removes the primary source of infection, but there should be no delay and the operation should be performed as soon after the injury as is possible.

Spread of infection is prevented by the more recent methods of treatment in vogue.

At the Knapp Eye Memorial in New York, foreign protein in the form of milk or Aolan is injected almost immediately in every case of severe injury of the eye. The use of cyanide of mercury in the Illinois State Eye and Ear Infirmary, for the treatment of severe corneal and intra-ocular infections has proved eminently satisfactory in the hands of many surgeons.

Lacerated wounds of the anterior segment of the eyeball should have immediate attention. Nothing is of more value to procure restoration of function and repair of tissue than complete rest of the eyeball. The light protective bandage gives support to a weakened and injured eyeball and aids in preventing contamination of the conjunctival sac and the repaired tissues.

In a lacerated wound of the cornea when there is prolapse of the iris and no apparent infection, a conjunctival flap drawn snugly over the corneal wound, after the iris is properly cared for, forms the best protection and support for this type of injury. The technique of the operation varies somewhat according to the character of the injury and the extent of corneal tissue involved. In a very extensive injury the conjunctiva is separated from the sclera at the limbus as in the first step of an enucleation and after freeing the conjunctiva from the eyeball a purse string suture is carried completely around the conjunctiva at the limbus and by drawing the suture taut, the cornea is completely covered.

In a less extensive injury the conjunctiva close to the wound is separated from the sclera in a similar manner for about half the circumference of the limbus and is then drawn down over the wound in the form of a curtain. At each end of the flap are placed two sutures, which have their attachment below into the conjunctiva

and when drawn taut cause the conjunctival flap to press firmly upon the wound. At the end of six or seven days the sutures are removed and the flap will gradually retract from the cornea except that the part immediately in contact with the wound will be firmly attached, thereby giving extra support to the wound area.

Injuries to the anterior segment of the eye, such as those involving the crystalline lens resulting in traumatic cataract are of great importance. Immediate result of such injury is loss of vision which increase gradually until blindness takes place.

These accidents are more frequent among children than adults. As a consequence usually we have to deal with a soft cataract. In some of these cases no interference on the part of the surgeon is required as they become absorbed after a certain length of time. Others, however, show no tendency to become absorbed and in the course of time require a needling of the lens or a linear extraction. In the adult the lens should be extracted in the usual manner. There is an added element of risk to the operation owing to the possibility of adhesions of the iris to the lens following the traumatism.

Perforating and penetrating wounds of the eyeball because of the injury to deeper and vital structures of the globe and because of the danger of infection should be treated with the strictest regard for asepsis. The prognosis in these cases should always be guarded. After the removal of any foreign material from within the eyeball there is always the possibility of tissue changes which may lead ultimately to complete loss of vision and destruction of the bulb. In no field of medicine is the x-ray of more value than in the diagnosis and localization of foreign bodies within the eyeball. Of all the foreign bodies that lodge within the eyeball none is more destructive or fraught with greater danger than steel.

Especially when there is a history of suspected foreign body in the eyeball a picture should be taken as soon as possible.

If the presence of a foreign body is thus confirmed, proceed with its localization according to the method of Sweet. This method gives not only the size of the foreign body in millimeters but the exact location within the eyeball.

As to whether the anterior or posterior route

should be taken for the removal of the foreign body from within the eyeball will be determined by its location. That route and method should be utilized that will entail the least danger or damage to the integrity of the eyeball. Certain kinds of material such as ordinary glass give no shadow under the x-ray nor will they respond to the electric magnet. This type of foreign body should be removed, if at all accessible, and if it can be removed without jeopardizing too much the life of the eye. However, it sometimes happens that similar foreign bodies will pass through the interior of the eyeball and lodge in the scleral tissues and become encysted. Except for a slight impairment of vision the eyeball will occasionally tolerate these foreign bodies for many years.

I would stress the importance of careful and exact suturing of the lids following lacerated wounds and in the event that an operation for enucleation is required every means should be taken to prepare the way for a properly fitting prosthesis. The importance of rest, the timely use of atropine and the advantage of the conjunctival flap to support the lacerated or incised wound of the eyeball should be kept well in mind.

Every eyeball with a suspicion of a foreign body within and where the history leaves an element of doubt should be subjected to a careful x-ray examination.

PREOPERATIVE MANAGEMENT OF THE PROSTATIC*

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In the not so far distant past prostatectomy has been considered by the general practitioner as nearly synonymous with a death certificate. This opinion was not without foundation, because until a few years ago the mortality ranged from 20 to 50 percent. During the past few years great changes have been made in the management of these cases, so that now mortality is greatly reduced, and morbidity, too. It is estimated that in the hands of a competent urologist,

mortality now does not exceed 5 percent. With a skillful few it is even lower, as evidenced by reports in the literature of large series of cases without a death. This improvement extends to pre-operative, operative and post-operative management. Many advances have been made in the operative phase, such as the open suprapubic operation of Hunt; the perineal operation of Young, control of hemorrhage, and so forth, but by all odds the greatest advance has been in the pre-operative preparation.

Primarily, prostatic enlargement is a mechanical condition obstructing the urinary outflow and resulting in a varying amount of retention of urine. This fundamental conception has long been well understood. The thickening of the bladder wall as a result of hypertrophy of the musculature is only part of the picture. Far more important is the increase in intra-vesical pressure, which according to Harrell, varies from 30 to 55 cm. of water in the resting bladder. This pressure, of course, is greatly increased on straining at urination. Harrell reports the results of a series of interesting experiments from which I quote freely. The pressure within the renal pelvis is practically the same as in the bladder, regardless of whether it is the result of reflux up the ureter, or efforts of the ureter to empty itself against the increased tension in the bladder. A "filtration pressure"* of approximately 60 millimeters of Hg. at the kidney is necessary for kidney secretion; if it falls below this level secretion stops. Thus, if the blood pressure were to fall to 130, and the intrapelvic pressure rise to 80, the "kidney filtration pressure" would be only 50; not enough to carry on secretion. O'Connor has shown that with rapid emptying of a distended bladder a very marked drop in the blood pressure occurs, with a disastrous result to the patient. This acute crisis is probably due to an acute kidney congestion and also to an altered relation in the "kidney filtration pressure."

Retention of urine over a period of time invites infection of the bladder with resulting ascending pyelonephritis. This pyelonephritis is most often progressive, frequently irreparable and the source of many deaths. Hunt in a recent article states that 25 per cent. of the mor-

*Read before the Northwest Branch of the Chicago Medical Society, April 12, 1929.

**Kidney filtration pressure is in our opinion a more apt term than "kidney pulse pressure."

tality at the Mayo clinic is the result of pyelonephritis.

Cardiovascular disease is a most important factor and intimately the result of long standing obstruction. Willius has shown that 42 percent. of patients with prostatic obstruction have cardiovascular disease, and that this ratio is higher than with other diseases occurring at the same age of life, and is not merely a coincidence.

Our pre-operative measures then must be directed chiefly at promoting elimination and bolstering up the cardiovascular system.

Promotion of elimination concerns itself chiefly with relieving the urinary bladder retention; a procedure frequently referred to as bladder decompression. This may be accomplished by either an indwelling catheter or a suprapubic cystostomy. Providing the catheter can be introduced and tolerated, the catheter method is preferred because it permits of a one stage removal of the gland, which is desirable because it allows better exposure, more accurate hemostasis and tends to minimize surgical accidents. Whichever method of emptying the bladder is used the keynote should be gradual decompression. Bugbee, O'Connor and others have pointed out the dangers of sudden emptying. Van Zwalenburg has devised an apparatus to accomplish this accurately. The apparatus is not always accessible, however, and we have found the use of a regular Murphy drip cannula to be satisfactory in its stead.

With the bladder draining freely, an attempt is now made to push the fluid intake and combat the urinary tract infection so as to restore renal efficiency to as near normal as possible. Elimination by means of the skin or gastro-intestinal tract is encouraged to the highest degree. We do not hesitate to use subcutaneous saline solution in the pre-operative preparation and in fact warmly recommend it.

Recently we have used insulin together with glucose solution in patients who were under weight and had little appetite with the idea of keeping the blood sugar at a somewhat lower level, perhaps hoping thereby to increase their desire for food. It is astonishing how it pepes up these tired, worn-out old men.

These measures all lead toward stabilization of cardiovascular renal reserve. As to the heart itself, most authors recommend symptomatic

support. We go a step farther and routinely digitalize our patients. This digitalization undoubtedly would not meet with the approval of some internists, but so far we have not met with untoward effects and we have the assurance of full cardiac support when the patient needs it.

The length of time required for proper preparation varies in different patients; but should be continued until repeated tests show a stabilized renal function. It may be safely said that the minimum time should be 10 days. As to the maximum, many cases require a number of weeks and in some instances months. Certain patients refractory to the building up procedure should not be prostatectomized. A suprapubic cystostomy and the application of a rubber bag, such as produced by Hare of Rochester, is the limit of their surgical endurance.

Hunt has recently shown by statistics from the Mayo clinic that every case required pre-operative preparation regardless of apparently excellent physical condition, and even in the absence of a large residuum or infection. It is generally believed that all cases become infected at operation, so it is better that they become infected by preparation, as is usually the case, thereby establishing a degree of immunity before reaching the surgical crisis. This state of infection is commonly referred to as "comfortably infected."

Preliminary bilateral resection of the vas, to prevent epididymitis, is now a routine procedure with us. This should be done as early as possible in the preparation of the case. Although we have seen epididymitis in spite of it, it has reduced the occurrence of this annoying complication considerably.

Cystoscopy before operation has been advocated by most, only in selected cases. This we believe, is a mistake. After many sad experiences with complications discovered too late, we have decided to examine every patient by means of the cystoscope. To our more conservative colleagues who decline routine cystoscopy, we recommend routine cystograms. Both these measures will detect vesical calculi, diverticula and tumors of the bladder. These lesions may be dealt with at the first stage of a two-stage operation, which has been shown to be the more favorable time from the standpoint of reducing mortality. Cystoscopy may also reveal the pres-

ence of carcinoma of the prostate, especially the small growths which sometimes escape detection by the examining finger in the rectum.

Conclusions:

1. Prostatic obstruction is not merely a mechanical process of obstruction of the vesical neck, but a condition which usually affects the entire organism, by way of the urinary tract.

2. Every prostatic should be considered a bad operative risk and subjected to proper preparation.

3. Preparatory bilateral vasotomy is recommended as routine procedure.

4. Routine cystograms and cystoscopy should be carried out whenever these procedures are technically possible.

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ARTHRITIS FROM A MEDICAL VIEW-POINT*

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Introduction. In this series, representing one hundred and thirty-four consecutive cases of arthritis, of all types, the classification of Goldthwait was used.

This classification possesses certain definite advantages, in that it is simple, is easily applied, and that it permits of a fairly accurate prognosis.

Classification. 1. Infectious arthritis.

(a) Acute.

(b) Subacute.

(c) Chronic.

2. Atrophic arthritis.

3. Hypertrophic arthritis.

The infectious type may appear at any age, (Schauffler¹) and is usually met with following exposure to infectious diseases, or from the appearance of a focus of infection, or due to an acute exacerbation of a pre-existent focus. Subacute and chronic forms frequently follow and present different clinical pictures as the duration of the disease advances. The importance of focal infection in the latter is doubted by some. Infectious arthritis corresponds to the English rheumatoid arthritis, and is thought by Crowe² and some others to be due to staphylococcal infection; by Haden³ and others to be due to streptococcus hemolyticus; and by others to be caused by various organisms. Theories and work regarding the causation of infectious arthritis have supported the allergic hypothesis, whereas, the role played by circulating toxins has also been emphasized. Factors such as heredity, body metabolism, and individual resistance, must be considered.

Atrophic arthritis appears most frequently in young, under-nourished, delicate and neurotic women. This is an extremely intractable form and is very resistant to treatment. It offers the poorest prognosis. The influence of infection prior to the onset of symptoms is known. The role played by foci during the course of the disease is doubtful, inasmuch as removal of foci not only is futile, but often actually makes the patient worse, due to the existing poor physical condition of the patient. The disease is progressive and leads to marked deformity. The so-called arthritis deformans is an example of atrophic arthritis.

Hypertrophic arthritis or osteoarthritis is a disease of senescence. It is found frequently in women following the menopause, and appears frequently in men at about the age of fifty, especially in those who are rather heavy, and who have done heavy manual labor. Ankylosis is rare here, but deformity is common because of postural changes and lipping of bone at the articular margins. The influence of body metabolism cannot be denied, although certain men, notably Crowe,⁴ state that this form is due to a streptococcal infection.

General Data. One hundred and thirty-four cases were studied in this series, and divided as follows: *Atrophic* type, 9 cases; *hypertrophic* type, 45 cases; and *infectious* type, 80 cases;

*Work done in arthritis clinic, department of medicine, Northwestern University School of Medicine, during 1928-1929.

*Paper submitted July 1, 1929.

percentages of 6.1%, 33.7%, and 59.6%, respectively.

None of these cases was of tubercular or syphilitic origin, and all showed a negative Wassermann reaction. For data relative to sex, age, weight, type, and duration see table No. 1.

TABLE 1

		Infectious	Atrophic	Hypertrophic
Sex	{ Male	48 or 60%	1 or 11%	14 or 31%
	{ Female	32 or 40%	8 or 88.9%	31 or 69%
Age	{ Low	19 years	27 years	21 years
	{ High	73 years	55 years	76 years
	{ Average	39 years	46 years	54 years
Type	{ Acute	9 or 11.3%	None	None
	{ Subacute	8 or 10%	None	2 or 4.4%
	{ Chronic	63 or 78.7%	9 or 100%	43 or 95.6%
Weight	{ Low	91 lb.	93 lb.	93 lb.
	{ High	262 lb.	187 lb.	245 lb.
	{ Average	144 lb.	140 lb.	158 lb.
Duration	{ Low	1 wk.	1 year	2 months
	{ High	30 years	15 years	20 years

In the infectious type the proportion of male to female was more than $1\frac{1}{2}$ to 1, whereas, in the atrophic and hypertrophic types the opposite was true with proportions of 8 to 1, and more than 2 to 1, respectively. In regard to age, the high average (as would be expected) fell in the hypertrophic group with an age of 54 years; whereas, the atrophic group showed a higher average than generally reported, namely, 46 years. The average age in the infectious group was 39 years. In the infectious group the chronic cases predominated, with all stages present, however, and in the atrophic group all cases were chronic, and undoubtedly existed as such from the start. Chronic cases predominated in the hypertrophic group, although there were subacute cases, also.

The greatest average weight was found in the hypertrophic group, while the least average weight was found in the atrophic group. Greater disability, and the fact that the disease is chronic from the start, therefore, necessitating early and frequent medical care, may account for the fact that the upper limit of duration in the atrophic group was only 15 years as compared with 30 and 20 years in the infectious and hypertrophic groups, respectively.

Blood and Urine. Complete blood cell counts and urinalyses were made on all cases, with the exception of those coming but once, a condition which unfortunately occurs in a large outpatient

clinic. In some cases a moderate anemia was found on entrance, but these cases showed a normal or near-normal count on discharge, although no definite attempt was made to treat this condition specifically. With few exceptions, the white cell count was normal. One outstanding exception being a case complicated with a chronic lymphatic leukemia in which the count reached 47,000, and the lymphocytosis 91%. A Spaniard giving a history of malaria presented the only leukopenia. The hemoglobin varied from 65% to 95%. The infectious group disclosed a tendency toward a fairly high polymorphonuclear leucocytosis. An eosinophilia was found in one case where no cause could be determined. Albumin, or albumin and casts was noted as follows: Infectious, 30% and 5%, respectively; atrophic, 33% and 0%, respectively, and hypertrophic, 11.5% and 2.2%, respectively.

Blood Chemistry. Blood chemistry determinations revealed the following information:

Total Non-Protein Nitrogen: Lowest values were found in the atrophic group, although the percentage in values above normal was 25%. Increases were also noted of 35.7% in the infectious group, and 39.6% in the hypertrophic group.

Urea Nitrogen: Here the smallest percentage of increases was found in the infectious type, with 26.9%, whereas, atrophic and hypertrophic groups reached 37% and 37.5%, respectively.

Uric Acid: The most outstanding results were obtained here, for in the hypertrophic, infectious and atrophic groups the percentages of increase were 79%, 88% and 100%, respectively. Some cases even approached the threshold of gout, but in no instances were tophi or mono and bi-urate crystals found.

Creatinine: Only one increase was noted, and this in a hypertrophic case. This test was therefore unimportant.

Sugar: In the infectious group, values ranged from 78 to 238, with only one case of lowered sugar tolerance; hypertrophic group from 78 to 165 with three cases of lowered sugar tolerance, and atrophic group from 70 to 143 with lowered sugar tolerance in one case. These findings differ from those of Pemberton⁵, who noted a much larger incidence of lowered sugar tolerance.

Chlorides: This determination was not at-

tempted inasmuch as previous observations had disclosed a tendency to uniform normality.

Calcium: This finding was also omitted. It has been our constant observation that moderate increases occur in the hypertrophic, and moderate decreases in the atrophic types, whereas, the infectious type remained normal.

Basal metabolic readings revealed a large majority of normal rates, with occasionally a lowered one, usually presenting hypothyroid symptoms. These cases were given thyroid extract. Only one true case of hyperthyroidism was found, although there were infrequent increased rates that fell to normal on the second test. It is assumed that these patients were not truly basal during the first test.

The blood pressures, on the whole, fell within age normals, with the exception of occasional increases or decreases. Our minimal systolic reading was 100, and our maximal was 240.

Joints: Over 85% of the total cases were symptomatically polyarticular. There was hypertrophic arthritis of the spine, with and without symptoms. Atrophic types presented the typical fusiform swellings of fingers, with a tendency toward ulnar deviation, contractures, typical decalcification changes on x-ray, and with sharpening of the articular margin. Calcified bursitis occasionally accompanied hypertrophic arthritis, and x-rays were always positive here. The x-ray was chiefly negative in the acute stages of infectious arthritis, but in the chronic stages was often positive, especially in the knee where spurring of the patella and bifid spines was seen. Here limitation in motion varied from slight stiffness to complete ankylosis. It is of interest to compare the frequency of joint involvement. The four most frequently attacked joints (Table No. 2) were as follows:

Infectious: Knees, spine, hips and ankles, in that order.

Atrophic: Fingers, wrists, knees, and shoulders, in that order.

Hypertrophic: Knees, spine, hands, and hips, in that order. Thus it is seen that the knees, spine and hips played the most important roles here. Many of the joints showed some evidence of swelling. This was especially true in acute arthritis, or during an exacerbation of a chronic arthritis. Sacro-iliac arthritis was common in the hypertrophic group. One case had marked

separation of the symphysis pubis, and was completely relieved by means of a sacro-iliac belt. Others showed evidence of structural deformity of the spine, and this form of low-back pain was treated orthopedically, with resultant improvement. Symptoms due to tilting of the pelvis, sacralization of the fifth lumbar vertebra, and abnormal angulation of this vertebra with the sacrum, simulate arthritis and must be differentiated from the latter.

TABLE 2

	Infectious	Atrophic	Hypertrophic
Knees	48.7%	55.5%	46.6%
Spine	47.5%	11.1%	41.8%
Hips	31.2%	44.4%	30.8%
Ankles	31.2%	22.2%	8.8%
Fingers	29.5%	66.6%	11.0%
Wrists	25.0%	66.2%	4.4%
Shoulders	36.2%	44.4%	13.2%
Elbows	18.9%	22.2%	13.2%
Feet	17.5%	44.4%	13.2%

Symptoms following the menopause occurred in 21% of the women in the hypertrophic group. The onset frequently followed the menopause and is indicative of the part played by metabolic imbalance.

Focal Infections: Search for focal infection disclosed some interesting facts (Table No. 3): More than one focus was noted in 61.2% of the cases, and in 4 cases no foci were found in the infectious group; multiple foci were found in 48.4%, and no foci found in 26.4% of the hypertrophic group; and in the atrophic group 66.6% were found with multiple foci, and 33.3% with single foci.

TABLE 3

	Infectious	Atrophic	Hypertrophic
Tonsils	77.5%	55.5%	30.8%
Teeth	46.2%	33.2%	37.4%
Pyorrhea	20.0%	11.1%	8.8%
Sinuses	5.0%	11.1%	4.4%
G. I. Tract	11.2%	0.0%	0.0%
Cervix	10.0%	0.0%	0.0%
Otitis Media	1.2%	0.0%	2.2%
Pharyngitis	8.7%	0.0%	4.4%
Rhinitis	1.2%	0.0%	4.4%
Appendix	6.2%	0.0%	0.0%
Constipation	12.5%	0.0%	11.0%
Tonsillar Tag	3.7%	0.0%	0.0%
Injected Jaw	1.2%	0.0%	0.0%
Gonorrhea	8.7%	0.0%	0.0%

Tonsils, teeth and pyorrhea were the chief offenders. Correction of these faults was made in all cases justifying such treatment. Approximately 15% of all cases had been tonsillectomized prior to clinic treatment. In many, teeth had been extracted and many had been treated

surgically elsewhere prior to entrance in the clinic. Cardiac disease was present in 16% and was of the chronic variety. A Neisserian-positive-history was obtained in 12.5%.

In one case where treatment had proven fruitless, investigation of the clinically negative gall-bladder revealed stones. These were removed and the arthritic symptoms gradually disappeared. Foci were relentlessly sought for, and removed in both the infectious and atrophic types, but were not overly emphasized in the hypertrophic type where senility was common. Here foci were removed only where it was evident that a dangerous focus was present. Where age and condition did not contraindicate, however, vigorous measures were pursued. Routine eye, ear, nose, throat and dental examinations were made in all cases. Women were examined gynecologically, and men submitted to routine genitourinary examination. All pathology was corrected. Chronic constipation was treated, as it is our belief that focal infection may be important here.

TREATMENT

Medication: In acute cases with pain and swelling, salicylates and iodides were used. In the subacute and chronic cases we have used cinchophen, neocinchophen, and mono-iodo-cinchophen. The latter drug causes very little gastric distress, while retaining analgesic powers. Thyroid extract was given in small doses where evidence of hypothyroidism was noted. A few of our cases received digitalis because of signs of decompensation. Iodine, in colloidal suspension—of which there are several forms—was given in the gluteal muscles where analgesia was greatly desired. This form of medication has proved very effective.

Diet: In the atrophic cases, where most patients were thin and undernourished, a diet was given to increase the body weight; a reduction diet was, however, given to most cases of hypertrophic arthritis, because of increased weight. An attempt was made to correct chronic constipation by means of diet. Fruits and vegetables formed a large part of the nourishment. Colonic irrigation was not attempted. Low protein diets were given all cases of elevated blood chemistry, nephritis or hypertension, and treatment was directed at the cause in each of these instances.

Foreign Protein: The killed bacteria of ty-

phosus with the alpha and beta types was used most frequently. No intravenous vaccine was used. Here, the patient being ambulatory, it was, of course, necessary to use rather small doses by the subcutaneous method. Beginning with 100,000,000 bacteria, we increased by that amount each week until a total of 1,000,000,000 was reached. A period of three weeks elapsed before protein was again used. The intravenous method as used by Cecil⁶, Miller and Lusk⁷ and others, has long been a favored way; however, although small doses were given subcutaneously, the results were very gratifying. In some cases improvement did not occur until foreign protein was used. Reactions, if any, were slight.

Physiotherapy: Electric baking has proved of great value when dealing with arthritis of any extremity. The greatest results have been due to this form of physiotherapy. In dealing with arthritis of hip, pelvis, spine, or neck, radiant heat is used. This form of treatment is best for these regions. We attempted to give all of our patients ultra-violet light in fractional doses, after the work of Eidenow.⁸ A greater tonic effect is obtained this way, and a definite bactericidal effect is exerted on the blood, when minimal erythema doses are used. Diathermy has proved disappointing, and in many cases has only served to increase the pain. Ionization and the static spark were used in selected cases, but without any marked beneficial effect. All arthritics should receive physiotherapy over a prolonged period of time. Such treatment should be under the direction of a physician especially skilled in this work. Too much must not be expected of physiotherapy, however, as other factors may influence the treatment and result. (Ewerhardt⁹.)

Orthopedics: Low-back pain, symphyseal separation, structural deformities of the spine, relaxed arches, subluxations, contractures and limitation in motion are best treated by orthopedic management. Strappings, application of supports, belts, stretching, casts, exercise, et cetera, constitute the methods used. Consideration of orthopedic management must not be overlooked, as in many cases this treatment is necessary. As an example of this we cite the case of a young adult male with low, lumbar pain. The x-rays showed not only a sacro-iliac arthritis but a structural deficiency of the fifth lumbar vertebra,

resulting in a tilting of the pelvis. An operation was performed and a spine fusion done. This caused complete disappearance of all symptoms. Treatment directed at the sacro-iliac arthritis alone would have proved ineffective.

Sulpharsphenamine: Utilizing the knowledge that arsenicals have hematinic and general tonic powers, we used sulpharsphenamine. This was given in the buttocks in doses of .3 grams weekly for six to eight weeks. After an interval of three weeks the treatment was resumed. It was noted that pain and effusion lessened, appetite increased, and motion became freer. In cases of hypertrophic arthritis of the spine, with absolute fixation—so-called spondylitis—it was found that after one course of treatment most of these patients showed much improvement, and were able to move more freely. In a few instances, this latter improvement was very marked, even when the case was of years' duration.

O-Iodoxybenzoic-Acid: The ammonium salt of iodoxybenzoic acid was used in thirteen cases with the following results: In ten cases of chronic infectious arthritis, marked improvement resulted in 7; moderate improvement in 2; and no improvement in 1. In 3 cases of atrophic arthritis, none were improved. Further studies on the indications for the use of this drug is needed. Excellent results following its use have been reported by Young and Youmans¹⁰, A. L. Smith¹¹, Millard Smith¹², and others, where an unfavorable report was given by Stein and Taube¹³, the latter using no adjuvant treatment, however.

Our method was the intravenous injection of the salt, using a 100 c.c. syringe with a six-inch piece of tubing, and adapter. The injection is given with great ease for the operator, and we found it to be a better method than the gravity one. The initial dose was .5 Gm. of amiodoxylbenzoate in 50 c.c. sterile, normal sodium chloride. The dose was increased .1 Gm. and 10 c.c. solution each time until 1.0 Gm. in 100 c.c. solution was given. This comprised a series of 6 weekly injections. The median basilic vein was chosen and alternate arms used every other week. After an interval of 3 to 4 weeks the series was repeated. This form of treatment was given to selected cases only.

Cottrell¹⁴ reported favorably on the use of calcium-ortho-iodoxybenzate. After careful and

controlled use of this salt in a series of 20 patients (12 infectious, 3 atrophic, and 5 hypertrophic), we have discontinued its use. In almost all instances, despite precautions, severe nausea resulted, and in many instances, vomiting. Only one case showed any improvement: several were made worse; and the balance failed to show improvement. In all but one case we were forced to discontinue use of the drug because of the untoward symptoms that resulted from its use.

Results: In a total of 134 consecutive cases of arthritis, 50, or 37.3%, were markedly improved. This includes many cured cases. Almost all of these cases are now free of symptoms. Moderate improvement was obtained in 30, or 22.3%, and slight improvement was obtained in 11, or 8.1%. A group comprising 43, or 32.3%, were listed as "Did not return." Thus we have a total of 91, or 69.3%, improved, the majority markedly so. The "Did not Return" series included cases failing to return for appointments, those coming for only one or two visits, and a small number of cases improving but failing to continue treatment. The best results were obtained with infectious arthritis, and the least with atrophic arthritis.

Comment: Should we look upon arthritis as a confined entity such as an infection, or, should we consider it as a broad, scientific problem with many tangents and involving infection, metabolism, trauma, statics, heredity and many other unknown and puzzling factors!

The latter view seems most tenable and reasonable. Burbank,¹⁵ on the other hand, considers it to be purely an infectious disease. There are many who consider it a manifestation of many bodily functions and dysfunctions. They do not believe arthritis to be strictly a matter of bacterial infection, although this influence is duly emphasized.

In the treatment of arthritis, Pemberton¹⁶ emphasizes the use of all the tools of medicine. Brown¹⁷ stresses the necessity of considering every case with an open mind. O'Reilly¹⁸ believes that it is a medical problem primarily. In accord with these and many others, we believe that a sane rationale and conservative management is best. It is necessary to utilize our knowledge of medicine, physiotherapy, laboratory, orthopedics, oto-laryngology, gynecology,

genito-urinary surgery, and bacteriology. Rudbäck¹⁹ favors the absolute use of autogenous vaccines. Leriche and Breuckmann²¹ are doing some interesting work on the aseptic necrosis theory in the production of arthritis.

We should be impressed with the fact that infectious arthritis offers an excellent hope if treated early in its course; that, we can help those afflicted with intractable, atrophic arthritis, and with the needlessness of submitting aged and feeble sufferers to surgery. That indications exist for surgery in the treatment of arthritis is not denied. Above all, it is necessary to convince all patients that persistence is absolutely necessary, as frequently good results do not begin to occur until a long time after starting the initial treatment.

122 South Michigan Avenue.

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ACUTE ABDOMINAL PAIN

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The interpretation of abdominal pain is an almost daily problem of any medical man. It is therefore a subject of great interest to us all. The correct evaluation of any sign or symptom should be in terms of the underlying pathology, either physiologic or histologic. The first school of diagnosis was empyric, Hippocrates; the second was that of Virchow, cellular; the third a combination of cellular and bacteriologic, Metchnikoff or Lister. The present era combines all the above interpreted in the light of a disturbed physiology.

Modern laboratory methods have permitted the detection of pathologic physiology, in many instances long before organic changes in the tissue can be demonstrated. A striking instance of this is the persistent hyperchlorhydria manifested curiously enough by a persistently painful tongue. Undoubtedly a glossopharyngeal neuritis caused by the hyperchlorhydria. This pain disappears magically upon the alkalinization or neutralization of the stomach contents. An illustrative case is that of a dentist who suffered severely with a pain in his tongue. Nothing else was complained of. Analysis of his stomach contents revealed a high degree of hyperchlorhydria. He was put on medical management but later developed an ulcer of the pylorus which in the process of healing produced a stenosis requiring gastro-enterostomy. In this case the disturbed chemism of the stomach was the signal symptom of the disease and was purely physiologic in character at that time.

Everyone is familiar with the vague symptoms of indigestion caused by early physiologic disturbances along the gastro-intestinal tract. Infection or the presence of calculi in the gall bladder are manifested by bloating and by eructations of gas after eating. The patient complains that he cannot eat a full meal because of the

distress caused by the distention consequent upon the fermentation of food.

Chronic infections of the appendix not only cause a disturbance in intestinal digestion but constitute a common cause of constipation because of the spastic state of the bowel resulting from the pain.

If we were sufficiently advanced in the science and art of diagnosis, it is highly probable that we could perceive in every sign and symptom the result of some physiologic or histologic departure from the normal. Putting this postulate in another form it would be possible to say, this sign or this symptom is present because of this pathologic change. Further than this, it is possible to say that the order of the symptoms is constant and when that order varies, there is every reason to doubt the correctness of the diagnosis.

The classic sequence of symptoms in acute appendicitis may be cited. In this condition the order of symptoms is pain, nausea and vomiting, elevation of temperature and localized tenderness. The initial pain is caused by the distention of the appendix and is relieved by the discharge of the contents of the appendix into the lumen of the cecum, rupture or gangrene. The nausea and vomiting are reflex in character and are a measure of the severity of the pain.

It is often possible to determine accurately the degree of pain in a given case. Personal experience proves that every event connected with any crisis in our lives stands out vividly in retrospection. The location, the surroundings and the exact time of day are very frequently indelibly impressed upon the mind. So it is with pain. When the attack is sudden, agonizing and unendurable, every event leading up to the climax is clearly fixed in the memory. Crile in his beautiful monograph, entitled "A Mechanistic Theory of Peace and War" has shown by human and animal experimentation that the shock incident to great pain produces actual changes in the brain tissue. The cortical cells are shrunken, lose their chromatin and normal staining characteristics and undergo changes in morphology. Is it to be wondered at then, that under the influence of the almost lethal pain of perforated gastric ulcer or acute pancreatitis that the patient has literally "engraved upon the tablets of his memory" every event coincident

with the attack. This fact is of the utmost value to the clinician in enabling him to determine almost the very hour of the beginning of the pathologic process.

The fever is due to the absorption of the products of infection and is always secondary to the pain and nausea and vomiting. It is placed third in order because of the lapse of time necessary for sufficient absorption to take place to produce a rise in temperature. Generally speaking, the degree of temperature is dependent upon the amount of tension under which the infective material is held and the virulence of the invading organism.

The localized tenderness is due to the irritation of the sensory nerve endings in the parietal peritoneum or localized peritonitis. When the fever precedes the pain the diagnosis of appendicitis must be in doubt. This frequently happens in typhoid fever with an ulcer within the appendix. Likewise when the abdominal pain is preceded by a chilly sensation or by an actual rigor, it is necessary to rule out a beginning pneumonia, pleurisy or pericarditis before making a diagnosis of an acute abdominal crisis. If one will follow this rule many embarrassing mistakes in diagnosis may be avoided as the following case illustrates.

A middle aged man was seen on the operating table just before the anesthetic was to be started. The history elicited that 24 hours previously the patient had had a distinct chill although not reaching the severity of an actual rigor. This was followed by the typical sequence of symptoms of appendicitis above given. His medical attendant had made a careful examination of the chest without finding anything. A similar examination by the surgeon was equally fruitless. Because of the history of a chill the patient was asked to expectorate and coughed up the typical rusty sputum of pneumonia. He died three weeks later of his pneumonia without operation.

We are all familiar with the hunger pain of ulcer of the stomach or duodenum. The history of disturbed physiology of the stomach manifested by hyperchlorhydria is as typical as the hunger pain. While there is some dispute as to the cause of this pain, it seems probable that it is caused by the irritating gastric juice flowing over the denuded area of the ulcer, because

when the acid is engaged by food or neutralized by alkalies, the pain stops.

Should the ulcer perforate, it is signalized by sudden agonizing pain caused by the corrosive action of the gastric juice flowing over the sensitive peritoneum. It is followed by nausea and vomiting—the vomitus occasionally containing blood, and by board like rigidity of the entire abdomen. The shock which is practically always present is due to the severity of the pain. Recent investigators have stressed the importance of demonstrating air in the peritoneal cavity by fluoroscopic examination. From an academic standpoint this is interesting but not necessary to make the diagnosis.

Acute hemorrhagic pancreatitis has every symptom in common with perforated ulcer except that their intensity is greater. In this condition the release of the intensely irritating ferments of the pancreatic juice (trypsin, steapsin and amylopsin) upon the peritoneum causes the unbearable pain. The myriad areas of fat necrosis observed at operation sustain the diagnosis.

In biliary colic the pain is caused by the ragged stone in transit through a duct too narrow to easily transmit it. Frequently the pain begins abruptly as the stone enters the duct and terminates as quickly when the stone is extruded into the large lumen of the bowel. The radiation of the pain to the back and to the angle of the right scapula is explained upon anatomic grounds. The terminal sensory nerve filaments of the intercostal nerves communicating with the sensory sympathetic of the parietal peritoneum, provide the pathway for the painful impulse to the right scapular area. The nausea and vomiting secondary to the pain is an index of its severity and is reflex in character.

The sensitiveness at the tip of the ninth right costal cartilage is due to the distended and inflamed gall bladder coming in contact with the palpating finger of the examiner. Temperature is not observed except in the presence of a severe infection such as an empyema of the gall bladder and is then due to the absorption of septic products. Visualization of the gall bladder and functional liver tests may be an aid to diagnosis but do not supplant the physical examination.

In ileus, a comprehensive term including mechanical, dynamic and adynamic forms, the

symptoms follow the definite order of pain caused by the arrest of the violent peristalsis at the point of obstruction, usually manifested by a mass in strangulated hernia. Nausea and vomiting, at first reflex, then mechanical due to reversed peristalsis and lastly toxic, due to suppurative peritonitis. Distention due to paralysis of peristalsis and obstruction to the escape of gas and feces. Finally elevation of temperature due to the absorption of septic products from the gangrenous area.

Should temperature occur soon after the onset of pain in strangulated hernia, the presence of an acutely inflamed appendix in the hernial sac must be suspected because gangrene of the bowel wall with the ensuing local peritonitis requires from twelve to twenty-four hours to develop. As a practical working rule, fever should always be regarded as an index of the absorption of the products of infection. The well meant attempts to explain a rise in temperature following operation upon a clean case, upon the basis that the patient has had too many visitors or upon any other hypothesis is simply refusing to face the facts. It is probably true that every clean abdominal case has a slight rise in temperature, post operatively due to the absorption of fibrin ferment. This is negligible however, and soon drops to normal.

In spastic ileus due to pneumonia, pleurisy and pericarditis, errors in diagnosis will often be avoided by remembering that the causal lesion begins with a chill which is never the case with mechanical ileus.

The following case is illustrative of spastic ileus caused by lower lobe pneumonia. A young man, coming home for the holidays had a chill in his berth on the sleeper. On arriving home his physician made a diagnosis of influenza. During the next forty-eight hours every attempt was made to evacuate his bowels but without success. Accordingly a diagnosis of ileus of unknown origin was made and immediate operation advised. The surgeon elicited the history of the chill and on careful physical examination was able to detect a small area of consolidation with crepitant râles over the lower lobe posteriorly. Morphine moved the bowels. The following clinical course was typical of lobar pneumonia.

Likewise in the ileus of tabes, the history of

lightning pains, the classic gait, the Argyll-Robertson pupil, the Romberg symptom and absence of patellar reflexes with testicular anesthesia will prevent an embarrassing operation, if borne in mind by the examiner. A case was sent to the hospital for immediate operation with the diagnosis of acute intestinal obstruction. No bowel movement for a week with pain, nausea and vomiting, tympany and inability to move bowels. W.B.C. 30000. The discovery of the classic signs of tabes prevented operation and free evacuation of the bowels followed the administration of $\frac{1}{2}$ grain of morphin.

In salpingitis the history of dysmenorrhea, vaginal discharge and smear combined with pain low down in the abdomen, nausea and vomiting, fever and the palpation of a painful mass in the cul-de-sac or on either side of the uterus is practically pathognomonic.

Ruptured tubal pregnancy usually gives a history of one or two periods skipped or perhaps an insignificant amount of bleeding at the regular times, sudden agonizing pain on one or the other side of abdomen, followed by the symptoms of hemorrhage. Vaginal examination reveals a tender mass at one side of the uterus.

Renal colic is caused by the attempt to pass a calculus through the ureter. There is frequently a history of sedentary living with heavy eating and scanty acid urine with high specific gravity. The gouty diathesis is common with tophi in the ears. The pain frequently begins in the inguinal region and radiates down the inner side of the limb due to the anatomic distribution of the genito-crural and internal saphenous nerves. The pain is accompanied by strangury, that is an imperative inclination to urinate with the passage perhaps of a few drops of bloody urine. The x-ray with shadow catheter or pyelogram will often assist in making the diagnosis. There is no elevation of temperature because there is no absorption of septic products.

In Dietl's crisis the disturbed physiology of the kidney function is observed in the marked variance in the amount of urine excreted. In this condition the pain is caused by the distention of the pelvis of the kidney by the kinking of the ureter resulting from an obstruction to the flow of urine. In the presence of what appears to be an acute abdomen the examiner must

always bear in mind the danger of overlooking some condition above the diaphragm which may exactly simulate some well known condition in the abdomen.

The insistence of clear and exact information as to the precise manner in which the attack came on, the previous history and the correct sequence of symptoms interpreted in the light of their underlying pathology will in most cases permit the examiner to make a correct diagnosis.

The homely methods of bedside examination have lost none of their value although some of the most trustworthy have been lost sight of, (especially by the younger men) in the rapid development of more complicated laboratory methods. For instance, the ability to obtain rusty sputum in a doubtful case is more valuable than any amount of laboratory research. It clinches the diagnosis at once and immediately throws out of consideration any idea of surgery. During the last ten years I have made it a point to ask each class which I have met, whether the necessity of a search for rusty sputum in cases beginning with a chill had been impressed upon them and in every case it was news to them.

I am not trying to belittle the importance of laboratory research as a diagnostic aid, but I am convinced that the present trend of medical teaching is to put the load upon the laboratory rather than to emphasize the importance of the history and clinical examination.

Strangely enough, pulmonary tuberculosis is commonly overlooked as a cause of acute abdominal pain and a tragedy follows abdominal section and an attempt to remove a tuberculous appendix or other focus. Here, as in the lungs or joints, the secondary infection is the dreaded complication. In pulmonary tuberculosis, the patient with merely an area of consolidation enjoys reasonably good health. It is conceded that he has a slight daily temperature, cough, with some loss of weight and strength. Suddenly, without apparent cause the patient becomes markedly worse, with high afternoon fever, drenching night sweats, rapid loss of weight and strength. It is at this time that the secondary infection of the caseated area occurs. The digestive action of the pus producing organisms digests and liquifies the bloodless focus of caseation with resulting cavity formation. From this collection of pus there is rapid absorption with

the symptoms of sepsis already described. Under these conditions the tubercle laden sputum is usually profuse. Despite every effort of the patient it is unavoidable that he must swallow some of this sputum. The invading organisms are carried rapidly through the stomach and upper reaches of the small bowel until they find the sluggish current of the lower ileum, cecum and appendix, where they are precipitated. The rich lymphoid tissue of this area provides fertile soil for the growth and rapid propagation of the pathogenic flora. Under these conditions the patient may experience an attack of what appears to be a typical acute appendicitis and a mass may be felt in the region of the cecum. Such a case should not be subjected to operation except in the very last extremity because the removal of a tuberculous appendix opens up the avenue for secondary pus infection by adding the colon bacillus and a condition results analogous to the pulmonary cavity. It will be found that the abdominal incision will open up after a week or ten days and as long as the patient lives the surgeon will have the painful experience of looking down into a large crater-like opening which resists every attempt at healing. How can these cases be recognized before operation?

In the presence of a frank pulmonary tuberculosis it is not at all difficult to recognize the connection as the following case illustrates.

The surgeon was summoned to the hospital to perform an emergency appendectomy. The symptoms were classic and a mass could be palpated in the region of the cecum. The patient was thin and coughed up an abundant thick yellow sputum at frequent intervals. There was a bright pink spot on each cheek and the respirations were rapid, accompanied by nasal dilatation. As she lay in bed, she presented a typical picture of advanced pulmonary tuberculosis. Examination of the lungs revealed a large cavity in one and extensive consolidation of the other. She died three months later without operation.

Without frank lung findings the detection of intestinal tuberculosis with attacks simulating appendicitis may be impossible until the abdomen is opened. The diagnosis can then usually be made by the presence of the tubercles upon the peritoneum and the greatly thickened cecum to-

gether with enlarged mesenteric glands. Under these circumstances it is usually better to immediately close the abdominal wound than to run the risk of secondary infection which is almost always fatal in this type of case.

The purpose of this short consideration of abdominal pain is to emphasize the very great importance of an accurate clinical history, together with the symptoms in the exact order of their occurrence, interpreted in the light of the underlying pathologic physiology and histology. 25 E. Washington St.

TEACH CHILDREN CLEAR SPEECH IN EARLY YEARS

Many a baby who is encouraged to continue baby talk grows up into a child with a speech defect, Calvin T. Ryan, professor of English in a midwestern college, warns parents, grandparents, devoted aunts and uncles and mere friends in the June Hygeia.

The time to make a clear and beautiful speaker of a child is during the first years of his life. The kindergarten teacher can teach more good English to children than the university professor can later on, for habits of speech are formed before one reaches the university, Mr. Ryan reminds those who have children in their care.

Parents and playmates are the first teachers and the first models that a child has. If they use clear, pleasing speech, the child will acquire good speech habits and retain them through life.

Americans are called a lip-lazy people, with the speaker who can be easily heard and readily understood the exception rather than the rule, says Mr. Ryan, and if this accusation is to be lived down the process must be started by mothers, insisted on by kindergarten teachers and required by university professors.

Marriages

GEORGE M. BORIN, Bartonville, Ill., to Miss Jessie McGhee of Peoria, August 5.

GROVER C. GOODWIN, Rankin, Ill., to Miss Mildred Bjurustrom of Gays, in Pittsfield, June 28.

EDWARD M. HARRINGTON to Miss Edith Edwards, both of Chicago, July 17.

Personals

Dr. Walter R. Fischer, Chicago, addressed the McHenry County Medical Society, August 5, on "Foot Deformities — Etiology, Prevention and Treatment," at Woodstock.

Dr. Edmund Andrews, Chicago, will address the Alexander County Medical Society at Cairo,

September 19, on "Diagnosis and Treatment of Gallbladder Diseases."

It is reported that Dr. James L. Smith, Chicago, has been appointed by Governor Emmerson as superintendent of the Illinois Eye, Ear and Throat Hospital to succeed Dr. Leo Steiner.

On Tuesday, July 29, Dr. Joseph Greengard gave the first of a series of weekly health programs at the Chicago Commons.

At the annual meeting of the Medical Women's Club of Chicago, recently, Dr. Petra M. Dahl was elected president; Dr. Goldye L. Hoffman, president-elect, and Dr. Elizabeth H. Schirmer, secretary.

The Franklin County Medical Society was addressed recently by Drs. Clark E. Baker, Marion, and William G. Parker, Mount Vernon, on "The Chemistry of Metabolism" and "Some Aspects of Allergy," respectively.

Dr. William F. Reasner, formerly of the Northwest Branch, is now District Health Officer of the Santa Monica District Health and Welfare Center, Santa Monica, California.

Dr. John R. Harger spoke at the Elgin State Hospital, August 21, on "Thyrototoxicosis in the Mental Patient."

Dr. Goldye Hoffman addressed the Mother's Club at Chicago Commons on August 26.

Dr. Lucius H. Zeuch is going to Rome to attend the International Congress of Medical Historians which will meet in September. Dr. Zeuch is to give a talk before the Congress on Illinois Pioneers of Medicine. Dr. Zeuch is the author of Volume One of The History of Medical Practice in Illinois.

Six doctors have been appointed by Governor Emmerson as members of the Child Welfare Commission. They are: Drs. R. R. Ferguson, Chicago; James H. Hutton, Chicago; John R. Neal, Springfield; Mather Pfeifferberger, Alton; Benjamin Baird, Galesburg, and Grover Otrich, Belleville.

News Notes

—Steps have been taken by the health department against the spread of anthrax germs. One case has been reported and investigators traced

the origin to a cheap shaving brush. This is the first case of anthrax reported here in five years, according to health department records. From 1920 to 1925, thirteen cases developed and several deaths followed. The present case occurred in the Niles Center truck farming district.

—*Science* states that plans are being made at Northwestern University for a hospital at Chicago Avenue and Fairbanks Court which is said to be the culmination of more than eight years of negotiation for the complete reaffiliation of Wesley Memorial Hospital and Northwestern University. The main building will be eighteen stories high, having a tower which will extend twelve more stories, and will cost \$5,000,000. It will have 600 beds. Its clinics, together with the facilities provided by Passavant Hospital, will form a complete medical center on McKinlock campus, capable of caring for nearly 1,000 patients. The new hospital will be largely devoted to patients from salaried and wage-earning families.

—According to Dr. Andy Hall, state health director, the state faces a new hazard from malaria. From epidemic foci previously free from the disease, case reports during July already exceed the prevalence of the total reported in that month of any previous year for more than a decade. During the first three weeks of July, 1930, seventy-nine cases were reported as against twenty-one for the whole of the month of July, 1929. In central Illinois, most of the cases have occurred among boys attending summer camps and tents along rivers and streams. Mosquitoes are manifestly becoming widely infected with malaria, Dr. Hall said. This situation exposes to malaria every person who is bitten by an infected mosquito.

—Mr. Max Epstein has subscribed \$50,000 through the University of Chicago to the Provident Hospital and Training School for the establishment of an outpatient department to be known as the Max Epstein Clinic of the Provident Hospital. Dr. Joseph B. DeLee has pledged \$10,000 for the purpose of naming the lecture room of the department of gynecology and obstetrics at the Lying-In Hospital in memory of his mother, Dora DeLee. Dr. Edward J. Van Liere, Morgantown, W. Va., endowed a research fellowship in memory of his deceased wife to be

awarded to a student of medical science in the department of physiology recommended by Dr. Anton J. Carlson. The Julius Rosenwald Fund has awarded a fellowship of \$3,000 to Dr. Franz Alexander of Berlin to enable him to serve as visiting professor of abnormal psychology or psychiatry in the department of medicine. The medical library fund has been given \$2,683.50 for the purchase of the Ahlfeld library in gynecology and obstetrics. For research the following grants have been received: \$1,200 from the Anasarcin Chemical Company, Winchester, Tenn., for a fellowship in the department of pharmacology for study of squill compounds; \$5,000 from the Glycerin Producers' Association for glycerin research under the direction of Dr. Carlson; \$1,000 from the General Electric X-Ray Corporation for research in diathermy in the department of physiology, and \$9,400 from the National Research Council for studies in the physiologic chemistry of sex hormones under the direction of Fred C. Koch, Ph.D., of the department of physiologic chemistry.

—Suits are pending in the Sangamon circuit court to compel the director of the State Department of Registration and Education to appoint an osteopathic and a chiropractic examining board and to license without examination a group of chiropractors who claim that they were practicing when the medical practice act now in force was passed in 1923. The court has sustained demurrers filed by the state in each case, but has entered orders permitting the osteopath and the group of chiropractors to appeal to the supreme court. The osteopath and the group of chiropractors complain that the members of the board by which osteopaths and chiropractors are now examined are medical practitioners, who are not qualified to examine osteopathic and chiropractic applicants for licenses. The exemption from examination urged by the chiropractic group is based on the claim that medical practice acts, whenever they have been passed, have exempted from examination physicians practicing in Illinois at the time of the passage of the act and that similar exemptions have been made in favor of veterinarians, horseshoers, architects, structural engineers, midwives, embalmers, pharmacists, dentists, registered nurses, optometrists, barbers, beauty culturists and public accountants.

Deaths

JAMES L. ALDRICH, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1889; clinical assistant in pediatrics, Northwestern University Medical School; aged 73; died July 31.

JAMES W. DINSMORE, Nebo, Ill.; St. Louis College of Physicians and Surgeons, 1896; aged 64; died, July 25, following a surgical operation in the Baptist Sanitarium in St. Louis.

JEREMIAH WILLIAM ELLIS, Chicago; Rush Medical College, Chicago, 1897; served during the World War; aged 64; died, June 30, in the Passavant Hospital, of bronchopneumonia.

JOHN BERNARD ELLIS, Chicago; Rush Medical College, Chicago, 1899; associate clinical professor of ophthalmology at his alma mater; on the staffs of the Presbyterial Hospital, St. Joseph's Hospital, and the Home for Destitute Crippled Children; aged 55; died suddenly, July 30, of coronary thrombosis.

LYMAN MILES ELLIS, Chicago; Jefferson Medical College of Philadelphia, 1893; aged 59; died, August 3, of angina pectoris.

GUSTAVE H. C. FRICKE, Park Ridge, Ill.; Rush Medical College, Chicago, 1869; aged 82; died, July 15, of senility.

JOHN MARTIN JACOBS, Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1887; Rush Medical College, Chicago, 1890; on the staff of the Augustana Hospital; aged 78; died, July 20, of myocarditis.

LAFAYETTE D. MCMICHAEL, Chicago; Eclectic Medical College of Pennsylvania, Philadelphia, 1868; aged 91; died, July 5, of uremia and chronic prostatitis.

EARLE C. MITCHELL, Chicago; Chicago Medical School, 1920; on the staffs of the North Chicago Hospital and the Illinois Masonic Hospital; aged 49; died, April 7, of chronic myocarditis.

SAMUEL S. NESBITT, Payson, Ill.; University of Buffalo (N. Y.) School of Medicine, 1867; aged 91; died, May 10, of chronic myocarditis.

SAMUEL MARION PARR, Carthage, Ill.; Keokuk Medical College, 1897; past president and secretary of Hancock County Medical Society; first president of Hancock County Tuberculosis and Health Association; active in insurance and fraternal affairs; aged 68; died, July 27, from the effects of cerebral hemorrhage occurring May 2 last.

CHARLES WILLIAM PFEIFFER, Quincy, Ill.; Keokuk (Iowa) Medical College, 1902; formerly member of the city board of health; for many years on the staff of St. Mary's Hospital; aged 54; died, July 20, in the Barnes Hospital, St. Louis, of acute hepatitis.

WILLIAM JACOB RIDEOUT, Freeport, Ill.; Keokuk Medical College, 1892; a member of Illinois State Medical Society; a veteran of the World War; member of the Association of Military Surgeons of the United States; active in Red Cross and fraternal work; aged 61; died, July 27, of myocarditis.

JAMES H. WATSON, Woodlawn, Ill.; St. Louis College of Physicians and Surgeons, 1881; former member of the Illinois legislature; aged 84; died, August 4.

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Editorials

DR. WILLIAM GERRY MORGAN, PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION, HITS THE NAIL ON THE HEAD WHEN HE PROTESTS AGAINST GOVERNMENT INTERFERENCE IN PRIVATE AFFAIRS AND IN THE MEDICAL PROFESSION

PATERNALISM IN MEDICINE CONTINUES TO BE AN ITEM OF STEADY GROWTH AND JUSTIFIABLE CAUSE FOR ALARM

Length and strength of governmental control in public and private affairs is a menacing scourge confronting the American people. Nowhere does this invidious paternalism make itself more insidiously apparent than in the question of medical economics.

Communists stalking at large like the devil seeking a world to devour chose well when they picked upon the humanities of the medical profession as an entering wedge for their diabolical doctrines. State medicine, or other unlimited governmental control of medical affairs is both unjustified, uncalled for and incompetent to serve either the best interests of economics or of individuals or of the progress of the science itself.

Dr. William Gerry Morgan of Washington, D. C., president of the American Medical Association, gave such a masterly epitome of the situation in the address that he delivered before the organization when it met in Detroit in June, that it would be well if some public spirited individual or society would have the address reprinted and distributed broadcast in booklet form.

Dr. Morgan rapped sharply the "tendency of medicine away from the doctor as an individual to the doctor as a 'paid employe.'"

Defining this condition as paternalism Dr. Morgan proceeds to say: "Whether exercised by a government, an employer, a group of citi-

zens, a parent or a guardian, the principle involved is the same. It is the principle or practice of the government that undertakes to supply needs or to regulate conduct of the governed in matters affecting them as individuals as well as their relations to the state and to each other on the assumption that it can best determine and secure their highest welfare."

Paternalism, according to Dr. Morgan has a tendency to go in waves or tides. Primitive society was entirely paternalistic.

Along in the eighteenth century society became complex, and as the social equality of individuals began to fade, class distinctions began to manifest themselves. Strong, capable individuals want little interference on the part of the state but merely protection in lawful pursuit of a livelihood. Weak individuals desire to be relieved of personal responsibility and to luxuriate in the benefits of paternalism.

When society is vigorous and thrifty there arises the political doctrine of *laissez faire*, or of individual freedom. But European nations have recoiled with decadence from this virile doctrine and America, as ill-befits its constitutional principles, is endeavoring to join the recoil.

As Dr. Morgan phrases it aptly:

"The *laissez faire* state in rotation always begins to exercise an attitude of paternalism, first in matters of aiding industrial or other groups in the prevention of poverty, in the care of the sick, and by assisting those bereft by death of the source of support. The state, having once more entered the home and looked into the family exchequer, assumed again the paternalistic attitude, until now (at least in certain notable instances with which all are familiar) it says what its citizens shall drink, what they may and may not buy and sell, what they may and may not do on certain days of the week—in short, it has built up such a maze of thou-shalt-not laws governing personal affairs that one wonders, What next?"

Dr. Morgan started from the basic principle laid down by Ruskin that there is only "one way of seeing things rightly and that is seeing the whole of them." The statement is equally true of medicine as a whole, curative as well as preventive, and it is particularly true of American medicine.

There has never been a time in the history

of our republic when the medical profession had greater need of seeing the whole and looking to the end. Indeed, certain paternalistic tendencies of the times give the same challenge to the very foundations of our system of government, and the problem which the medical profession is facing in reality forms part of the great problem which the nation as a whole faces—the slow-moving, stealthy, vigor-sapping specter of overlordship which, for the want of a better term, we call paternalism.

In order to comprehend the paternalistic attitude of government or of society toward matters pertaining to health and general physical and mental well-being, it is not necessary to trace the history of medicine from the time of the migratory clan, with its taboos and its incantations. As all know, it was long after our progenitors settled down with an established form of government that the practice of medicine developed into anything beyond the incantation, voodoo, superstitious, religio-medical stage. But the individualism which developed as the human race became organized into a more and more highly complex system of life finally began to manifest itself in a new interpretation of the idea that in union there is strength; and with this, as physicians, we are concerned.

Though Dr. Morgan cited a lengthy list of menaces the tendency to bureaucracy and paternalism incurs, and dwelt lengthily on experiences of Germany and Great Britain with governmental sickness insurance plans, the most direful threat pointed out was that of state medicine. Said Dr. Morgan with emphasis: "All must grant, there are certain matters pertaining to the health of the citizenry of any country that can be administered more advantageously by the government, national, state or municipal, than by the medical profession, in groups or individually.

The history of the United States Public Health Service, from its beginning in the Marine Hospital Service, authorized by act of Congress and approved by the President in 1798, makes fascinating reading. Its evolution has been gradual, perforce, and has followed the trend of scientific medicine. Its functions now include: (1) protection of the United States from the introduction of disease from without; (2) prevention of the interstate spread of dis-

ease and suppression of epidemics; (3) cooperation with state and local boards of health in health matters; (4) investigation of diseases of man; (5) supervision and control of biologic products; (6) public health education and dissemination of health information. To such manifestations of governmental control there can be no objection, and it is sincerely hoped that no encroachments on private rights will ever be made by this splendid agency of our government.

"But we are not willing to accept the view expressed by some that public health or preventive medicine has practically no limits. We are not willing to see the entire population, with the exception of the rich, taken away from the individual physician, whether he be family doctor or specialist, and turned over to the salaried physician who, by virtue of the circumstances under which he must render his service, will not be able to devote to the individual patient the careful study that is or may be required. And when I say that we are not willing to see these things come to pass, I have in mind the interest of the sick and not the bank account of the physician. No scheme has yet been evolved of state insurance, state medicine, or whatever it may be called, and that has demonstrated unequivocally the advisability of going the limit in the matter of governmental control over individual health maintenance."

Some of the fundamental points emphasized by Dr. Morgan are that hospitals changing from their original status of charity institutions to the present position of places for the care of all kinds of sick—well-to-do, poor, and pauper have brought about a condition unjust to physicians. The popular misconception has arisen that the doctor's services are included in the hospital's service, and that one bill covers both. A Massachusetts court has even ruled this way, he said. On the contrary, the hospital in no sense provides the services of the physician who treats the patient there. The services are not the hospital's to provide. Dr. Morgan ably and pointedly summed up and offered these basic principles for adoption by the House of Delegates:

1. The physician is no more obligated to provide for the care of the indigent sick than his fellow citizen.

2. In mutual charitable undertakings for the

care of the sick, each citizen contributes what he has; the laymen, physical necessities; the physician, professional skill. But each has a right to protect himself from exploitation and to judge of the merit of the recipients of his bounty.

3. When a hospital offers its facilities to a mixed clientele, pay, part pay and pauper, the distinction between the sources of those facilities should be clearly recognized. The physical equipment and service is of general public origin, and their uses may be sold or given away in the discretion of lay boards; but the professional facilities are, and always must be, the contribution of the medical staff as individuals and cannot become in any sense the property of the institution.

4. When a hospital is owned and operated by the government and supported by taxation, to which the medical profession contributes its due proportion, medical attendance should be paid for by taxation, along with all the other facilities supplied by the institution.

5. No hospital, instituted and supported by public philanthropy or community cooperation of any kind, should be permitted to increase its revenues and so reduce its financial burden on the public, by any system of collecting fees for medical attendance, and thus engaging in the corporate practice of medicine.

6. The membership of the Association should be guided by these principles in accepting posts on the staff of hospitals, and should refuse to support by the contribution of their services, or by the references of their patients, any institution violating them.

Says Dr. Morgan further:

"Of the compulsory insurance act in Great Britain Sir James Barr says: 'A long step in the downward path toward socialism. It will tend to destroy individual effort, and increase the spirit of dependency which is ever found in degenerate races. This spoon-fed race will look more and more to a paternal government to feed and clothe it, and not require it to work more than a few hours daily. They will be further encouraged to multiply their breed at the expense of the healthy and intellectual members of the community.'"

Despite this opposition of the British Medical profession to state medicine, it was reported in 1927 that there were in England, Scotland

and Wales, 38,486 physicians employed by the state.

Says Dr. Morgan:

"The wonder to us is that any member of the medical profession anywhere would become part and parcel of such a scheme. And yet, within our own ranks there are men in high places who are engaged in propaganda to bring about some such system of practice in this country. We have enough of it already in so-called contract practice, in lumber camps, 'sweatshops,' and various commercial and industrial institutions; do we want the paternalistic hand of the government to reach out and take hold of medical practice in any such fashion as that started by Germany and followed by so many other countries? Do we want any form of state medicine, within the definition laid down by this association?"

THE MEDICAL PROFESSION OF ENGLAND IS TO BE MADE THE CUSTOMARY CATSPA W FOR PULLING THE CHESTNUTS OUT OF THE FIRE IN THE ATTEMPT AT FURTHER INVASION OF GREAT BRITAIN BY SOCIALISM

Those thinking citizens who crusade for civilization and system rather than for communism and chaos have been worried enough over the workings of the British "dole." An even more fruitful cause for concern is the news just now seeping out of England to the effect that socialism is preparing an even further invasion of Great Britain, with the medical profession the customary catspaw for pulling the chestnuts out of the fire.

England's "bloodless revolution" seems on the way to make trouble enough before it gets through. Better a little blood letting and less phlebitis. Physicians in England are already working under the iniquitous "Panel system," of which the dire effects upon the community have not as yet begun to be noticed by the laity, only physicians realize the degree to which the efficiency of the medical profession has been affected.

What the outcome will be of the purpose scheme of putting the public health of the British isles into a portfolio offers a neat problem.

This newest form of medical socialism is called

"The Public Medical Service Association." Its purpose is to socialize completely the medical profession by furnishing free state medical, nursing, institutional and surgical attention to *any citizen of any class irrespective of pedigree or pocketbook*. The promoters are putting national health on a par with the corn, hog and sheep crops. They are aiming to consider tuberculosis, gallstones or venereal disease in the same way that the United States looks at the boll weevil or wheat blight. Somerville Hastings, M. P., laryngologist at Middlesex hospital, presided at a recent meeting held at the house of commons. Dr. Jane Walker, a tuberculosis specialist, was appointed secretary to the temporary executive committee appointed to draft a constitution. Get it plainly into your head that the service intended will cover all prophylaxis, personal as well as community; as well as dental, preventive, medical, surgical and nursing treatment in each and all forms, ramifications, and tangents, and all this will all be administered under "the ministry of health." Hitherto the great example of robbing the individual of that individualism that is the basic germ of all manhood has been, in the medical sphere, the national health insurance act, that like all malign legislation has been casting its shadow of possible extension, far, far ahead.

The United States, the worst law ridden country in the world, can't stand aside where such socialistic endeavor is considered. We dare not consider it none of our concern. We have already had a sample of this "public health insurance" stuff in the Sheppard-Towner bill, now seeking to play the phoenix in the Newton bill, and in the drug addict nonsense being pushed along in the Porter bill. That which will happen in England and in other countries afflicted with the adoption of national health insurance laws, when all their "possibilities" are in the hands of politicians is going to be terrible. Wholesale herodism will flourish for one thing.

As a matter of fact all legislation of the Sheppard-Towner type should be opposed everlastingly and without ceasing. For enactment of such legislation inevitably constitutes a step that is ruinous. The United States must be warned in time and take that warning.

Dr. Walker, one of the strongest proponents of the British proposed mess, admits that "The

movement will be opposed by the medical profession, that is, of course, conservative." However, she thinks, that "An increasingly large proportion of physicians is prepared to consider the proposal and that if legislation comes the profession will bow to the inevitable." Similar difficulties arose when the health insurance act came into operation. Many physicians refused to work it and have never come within its scope, Dr. Walker holds that in general these physicians themselves and not the community have suffered. To the objection to a state medical service that under the public would have no choice of physician she replies that "it is not realized how few now have choice. A physician can have thousands on his panel, have offices all over the district, pay physicians to work for him and draw the fees. But a comprehensive state service would remedy this as well as other defects of the insurance act." Something of the nature proposed is already in operation at Swindon (a town mainly inhabited by railway men and their families), where all the physicians work together and attend the entire population in rota. Argument used in favor of a state service is "that it would abolish overlapping of the functions of the various branches of medical service; that it would free physicians from the pecuniary uncertainties of private practice; that it would provide the large sums required in scientific investigation for the prevention of disease; that it would give a more equal division of physicians as between rich and poor areas, and that it would put the hospitals on a firm financial basis."

Of course, in England the present health insurance act extends its beneficences only to the poor; to the "working classes" and to a section of the "middle class" patently unable to pay for the medical, institutional and surgical attention their physical needs demand. Extended and put into a portfolio, the king as well as the commoner would have the same service and, willy nilly would have to take it or leave it.

Here is a mental pemmican for the man with an eye to the future. United States stick-in-the-muds should realize that a man in an airship can cross the Atlantic in 48 hours and that an idea makes the crossing in about 48 seconds.

What will be the outcome of putting the public health of the British Isles into the port

folio of a diplomat? This newest form of medical socialism is communism rampant.

YOU MAY NOT BE INTERESTED IN POLITICS, BUT POLITICS IS INTERESTED IN YOU

IN ITS MANAGEMENT OF PUBLIC BUSINESS POLITICS GRIPS EVERY MAN'S CONTACT WITH SOCIETY AND WITH THE GOVERNMENT—
PHYSICIANS CANNOT AFFORD TO QUIT POLITICS, FOR POLITICS WILL NOT QUIT THEM—THE QUALITY OF POLITICS DEPENDS UPON THE DEGREE OF PUBLIC INTEREST IN IT

Party politics must go under the hammer for the nonce if physicians of Illinois are going to make count their influence for requisite legislation through the results of the next election.

There is no time to waste, Primaries are hanging over our heads. April 10 is a day of destiny. The voice of the candidate is heard in the land, and the voice of the physician must be raised immediately to discover just what these candidates intend to do about matters affecting the medical profession and its dependent, the public health and welfare.

Ballots talk. More effective than any other oratory is the count at the polls. Let the physicians of Illinois show that this gift of electoral eloquence is not denied them by making themselves heard at *the time that the candidates are selected for nomination*. This preliminary right of selection will cut down the work later on.

The times demand that patriotism supersede partisanship. What a candidate for any office is going to do about the insidious red propaganda springing up stout as purslane all over the land, each and every doctor should discover without any delay.

Even the physician can't accomplish this miracle.

Doctors who think that they can dodge the perhaps tedious, but admittedly necessary task of becoming interested to the point of personal exertion in the government of the United States are mistaken. The rule holds that a man must govern his horse or be governed. Apathetic physicians who are willing to submit to the despotism of money-grabbing, wire-pulling politicians may find food for thought and spur to

action on April 10 in this able editorial, appearing recently in the oldest newspaper in the State of Illinois—"THE CHICAGO JOURNAL."

This reads, under the heading, "Politics"—

"There is no escaping politics. It has a bearing on almost every human interest. Frank Kent, one of the ablest of correspondents in Washington, where he represents the *Baltimore Sun*, has been writing for the publication called *The Nation's Business*, and saying that in a greater or less degree every adult American is a politician perforce. He may not be 'interested in politics,' but politics is interested in him. In its management of public business it grips every man's contact with society and with the government.

"It is impossible, Kent shows, to be born or to die, to marry or to be divorced, without politics having to do with the matter. Every tax you pay, the smooth streets and the good roads, the public schools, the fire department, the health department, the water you drink, asylums, courts, custom houses, jails and penitentiaries, the police, the post office, every law and ordinance—all spring from government, government springs from parties, and parties are in politics.

"The people can not afford to quit politics, for politics will not quit them. The quality of the politics depends upon the degree of the public's interest in it."

What better, plainer plea can be made the physician and at this crucial moment?

Remember the primaries on April Tenth.

AN APPEAL TO PROSPECTIVE MEMBERS OF THE LEGISLATURE

Prospective members of the legislature should be informed on the following general principles, of interest equally to the medical profession and the general public.

We have too many laws, and too large a tax levy.

Living expense and taxes will be lowered as soon as hundreds of over-priced, interfering, recently adopted and unnecessary laws are done away with. America is mortally ill from a plague of laws. This evil is maintained at an annual cost per capita of \$91, and of about \$350 per family. One out of every twelve people in the United States who are over sixteen years of age, and who are gainfully employed, is on the

public payroll. In the last few years this ratio has risen from one out of every 1,000.

There are 15,000,000 employees on the public payroll according to the estimates of census statisticians. *This places an office-holder or "tax-consumer" on the backs of every two tax-producers.* Exclusive of pensioners there are almost three million public servants whose pay comes from the ever increasing taxes. A large proportion of this number is engaged in the administration and execution of superfluous statutes.

A similar situation crushed France and produced the French revolution. It was the bane and damnation of Germany.

"Americans are now compelled by law to do, and prohibited by law from doing, more things than were the citizens of autocratic Europe before the war."

We are the victims of a paternalistic regime that will eventually enslave and bankrupt the country. The *cost of government* has become unbearable. Too many functions of local and of state governments are being controlled by hidden bureaus in Washington. *There is more power exercised today in these bureaus by unknown "experts," political appointees of whispering propaganda, than by the courts themselves.*

Centralization of government, bureaucracy, state subsidies and autocratic control are a poignant menace, and a fatal growth.

Bureaucracy is a curse wherever inaugurated. In the management of medical affairs it is fatal. Germany stood at the pinnacle of medical achievement thirty years ago. Under bureaucratically administered state medicine, Germany has come to have the worst medical service in the world and the poorest care for the health of the people. It will be ruinous to the health and welfare of the United States if this system is adopted in this country.

Before the coming legislature there will be presented many bills, attempting to regulate incompetently the practice of medicine and needlessly to increase taxation. Many of these bills will provide for the licensing to practice medicine, of uneducated and improperly equipped men and women.

We ask no especial favors for doctors, but we believe in a single standard of education and a thorough professional training before a man

or woman can be licensed to practice the healing art or to diagnose disease.

Persons who seek a license to treat human ailment in the State of Illinois should know how to make a diagnosis of disease which is essential for the conservation of the public health.

There should be no side door short cuts to the practice of the treatment of disease in this State.

Ask your prospective representative what will be his attitude towards medical legislation designed to increase taxes and to medical legislation intended to safeguard your health and that of your neighbors and fellow-citizens.

GO TO THE POLLS AND VOTE NOVEMBER 4th—DOCTORS SHOULD TABOO PARTY POLITICS

DOCTORS SHOULD TABOO PARTY POLITICS—NOW IS THE TIME TO MAKE YOUR INFLUENCE COUNT—DOCTORS' TROUBLES ARE ECONOMIC
PHYSICIANS HAVE TO MAKE THE CHOICE BETWEEN A REPUBLICAN CANDIDATE WHO IS WRONG ECONOMICALLY AND A DEMOCRAT WHO IS RIGHT ECONOMICALLY—THAT WILL BE THE REAL TEST OF THE LOYALTY TO AN ECONOMIC PRINCIPLE

President Coolidge has said, "Every voter ought not merely to vote, but to vote under the inspiration of a high purpose to serve the nation." The job of doing so confronts us at the election November 4.

By the time the physicians of the land spend even more money, and more time, to discover that neither they nor their profession can compete with practical and practicing politicians, the importance of paying more attention to election day will be brought home to every man with an "M.D." at the end of his name who calmly sits back now and lets the country be run by the unscrupulous who are not "too busy to bother" with the ballot.

What economic self-preservation the medical profession has been able to achieve has not accrued from any devotion to citizenship duties, but because of the respect in which, even in this topsyturvy day, the average citizen, still holds the medical profession.

If the doctors of Illinois would attend ever so

slightly to their personal citizenship duties—the task involving their personal participation in all elections—the result would be a near-panacea for a multitude of civic ills, that are insidiously near to eating at the very core of the essence of civilization.

It is no longer a question of a man's "getting" or "not getting into politics." It is up to the medical men to cry "Checkmate" to politics. For the politicians of the country have already grabbed hold of the very tail of the medical profession, and are literally swinging this august body of men about with as little ceremony as if it were a yellow dog!

Blinking at facts is useless. The entire trend and achievements of legislation in the past twenty years shows how medicine is being made the pawn of politics. In another twenty years the medical profession will find itself, half throttled and altogether ham-strung unless it wakes up. Nor does "waking up" mean that any man can do this deed vicariously. The situation is up to the individual physicians of the land.

Each doctor must doff his toga of science sufficiently long to discover what is going on before the result gives him and his profession, and par consequence, the public health and the virility of civilization—a knock-out blow. Just as soon as physicians will enter the actual arena of politics and lend their professional support to those ethical lawyers and clergymen who are accomplishing a brave futility in the effort of getting politicians out of politics, there is going to be a marked change in conditions and a restabilizing of the foundations of the world's greatest democracy.

Well has it been said that the policies of one set of physicians are in force so long as "fifty and one-tenth per cent. of the votes are cast for those politicians, and the opposite policies are in force when one voter in a thousand changes his mind. It is on such extremely slight changes as these that often hangs success in any political field."

Even now, hobbled by the almost ubiquitous lethargy with which the average physician regards elections, candidates and the entire system of democratic government—physicians have far more influence than they suspect with members of law-making bodies. Wide knowledge, good judgment, public spirit and the gift of vis-

ion are sine qua non with every successful man of medicine. Physicians everywhere should realize this imminent necessity for their stating to the public as well as to law-makers, not only the ideals of the profession, but the arguments for their adoption and their absolute bearing upon the health and the wealth of every country. This setting forth of principles, should, if indicated, be also a going forth to war for the right—a defense of medical ideals and of the country.

Everybody, everywhere may not agree with some of the ideas and dicta of President Coolidge. But every sane minded individual, *anywhere*, must coincide with these assertions of the nation's chief executive:

"Many of the founders of our government gave all their wealth and their lives for the right of franchise.

"The right of franchise is the right to vote.

"It is the most valuable heritage that the American people have.

"The right to vote is more than a privilege.

"It is a duty.

"Our government will continue to give us the opportunity for independence and freedom only if we do our duty towards the government.

"Our duty is to go to the polls and vote intelligently.

"It is our duty to see that each member of our family, who is qualified, votes.

"It is our duty to know the records of the candidates.

"To some of them you will entrust your liberty and the protection of your property."

Again are the physicians of the country besought to take heed of the electoral situation.

DOCTORS WHO HAVE ACHIEVED FAME IN OTHER FIELDS THAN MEDICINE

DR. CARL O. SCHNEIDER—COLOR PHOTOGRAPHY
OCULIST EXTENDS VISUAL PLEASURES
THROUGH USE OF COLOR
PHOTOGRAPHY

DR. CARL O. SCHNEIDER'S LUMIERE AUTO-
CHROME ILLUSTRATED LECTURES ARE
POPULAR WITH WIDELY VARI-
ANT AUDIENCES

To be an oculist pre-supposes tasks conducive to pleasures of the eye. The chosen avocation of Dr. C. O. Schneider, a prominent Chicago

oculist, plays hand-maid to his skilled profession of correcting defective vision, by unfolding a world of magic sight. With Dr. Schneider autochroming is a distinct art.

His color photography is fascinating and of rare beauty, even when it is compared with modern elaborate screen productions. Scenes depicting lovely wild flowers in their natural environment, forests and meadows and more magnificent beauty spots of nature, such as the abysmal canyons of Utah and Arizona, mountains and their beautiful valleys and lakes, are the subjects from which Dr. Schneider has "held the mirror up to nature," with breath-taking fidelity. He shares this interesting hobby with the public by projecting these interesting scenes on the screen and by accompanying them with a suitable lecture.

Autochrome illustrated entertainments are very uncommon because plates larger than lantern slide size and special projection apparatus are required when showing to large audiences, and it is interesting to note that only one or two persons besides Dr. Schneider are equipped to accomplish this.

Dr. Schneider is a resident of Winnetka, a suburb on the beautiful North Shore of Chicago, where he has taken an entire series of the flowers and gardens of those positively royal places. In southern Utah and in Arizona where Dr. Schneider has passed five summers, he has found even a more rugged appeal to the heart of the beauty lover. His wealth of autochromes reproduce with awe-inspiring splendor and fidelity of coloring, the marvelous scenery of Bryce, Zion and the Grand Canyon. These have been shown to innumerable medical and scientific groups, such as, the Academy of Sciences, the Field Museum, the Art Institute, the University Club, the Chicago Camera Club and the Commercial and Portrait Photographers' Associations, who all testify to the merit of his art.

About twenty-five years ago, Lumiere, a celebrated French painter and his brother originated the art by means of which all natural colorings and shadings of objects and scenes can be reproduced on their especially prepared plate. In a casual attempt at describing the process it might be remarked that on each plate there is imposed a layer of minute starch particles colored red, green and blue-violet, each of which acts as a color filter. Underneath the starch

layer is an ordinary sensitive photographic emulsion. Exposure of the plate is made in the usual manner. It is then developed, reversed and redeveloped so that it becomes a positive rather than a negative; thereby each plate becomes an irreproducible original Lumiere colored transparency which is used as a lantern slide. This Lumiere method is still the most successful process of color photography, and few technicians have become more adept in this art than Dr. Schneider.

"Beauty is in the eye of the beholder." Dr. Schneider's eyes see double where beauty is concerned. He has the photographic facility, the patience, the artistic knowledge and the sense of elimination that enable him to compose his subject into an adorable picture. Infinite care, such as is required for ocular surgery, enables him to develop his color plates with due respect to the canons of art as well as the canyons of nature.

In our column of "Hobbies of Medical Men" we have as candidates for future write-up the names of the following physicians who have achieved fame in fields other than medicine. They are:

Richard S. Pattillo, Henry T. Byford and Louis J. Tint, all of Chicago. Do any of our readers know of additional names that should be added to the list?

BIG MEETING AT QUINCY, ILLINOIS, ON NOVEMBER 17, 1930

The Fifth Annual All-Day Clinical Conference of the Adams County Medical Society will be held at the Elk's Club, Quincy, Illinois, on Monday, November 17, beginning at 9:00 A. M. The program will be an All-Cleveland one and is especially arranged to appeal to physicians in general practice. There will be a total of nine scientific addresses on a variety of medical and surgical subjects, with morning, afternoon and evening sessions. Among the speakers will be George W. Crile, M. D., F. A. C. S.; William Mullin, M. D., F. A. C. S., and Russell Lanram Haden, A. M., M. D., member of the Cleveland Clinic Foundation.

All ethical physicians are cordially invited to attend and there is no registration fee.

This Annual All-Day Meeting of the Adams County Medical Society has become more popular

each year and a total registration of 300 physicians are expected to attend.

A detailed program of the meeting can be obtained from the Secretary, Harold Swanberg, M. D., 211-224 W. C. U. Building, Quincy, Ill.

ANNUAL MEETING OF THE SOUTHERN MEDICAL ASSOCIATION WILL BE HELD IN LOUISVILLE, KY.

The Jefferson County Medical Society, which will be host to the Southern Medical Association during its annual meeting in Louisville, Ky., November 11 to 14, 1930, desires cordially to invite you to this event which will be the most outstanding medical convention ever assembled in Louisville.

There are many reasons, too numerous to mention, why the rank and file of the medical profession in the South, and in other States adjacent to Kentucky, should be interested in attending this meeting. Louisville is looking forward with the keenest interest to the time when it shall open its arms in a hearty greeting to those who shall attend.

Louisville, as well as the State of Kentucky, is rich in scenic beauty, and there are numerous points of historic interest which will have a strong appeal to many who have already signified their interest in the stories about Louisville which have been running in the Journal of the Southern Medical Association.

The scientific work of this Association is well known to your editorial staff. There will be on the program of the Louisville meeting many physicians and surgeons of national and international reputation whose papers and discussions will be of outstanding interest to all in attendance.

EMMETT F. HERINE, M. D.,
Pres. Jefferson County Med. Society,
W. E. GARDNER, M. D.,
Chairman Publicity Committee.

A PEN PICTURE OF THE COUNTRY DOCTOR

Dr. R. F. Lischer, Mascouh, Ill., has recently brought out a booklet entitled, "THE COUNTRY DOCTOR." The book is interesting reading, it gives a mind picture of the ups and downs of the life of a country doctor. He shows the relation of the country doctor towards

the city specialist, the problems of changing times in country practice; his experience in the school of hard knocks; the country doctor's task in getting the true spirit of medical science; the value of the human touch in the art of healing. There is a chapter on the doctor's faithful horse, the doctor's home and many other interesting sidelights on the problem of the country doctor. The book contains several interesting pen illustrations. A copy of the work can be had by writing direct to Dr. Lischer.

NEGRO DEATHS IN ILLINOIS GREATER THAN BIRTHS

According to Dr. Andy Hall, director of health, State of Illinois, the mortality rate among blacks is more than twice that among whites.

During the six years ended with 1927, the most recent for which statistics are available, there were 101 more deaths than births among negroes in Illinois. In that period there were 31,574 births and 31,675 deaths. For these years the average annual mortality rate among the blacks was 23 per 1,000 colored population and 11.5 among the whites.

Tuberculosis, pneumonia and syphilis are the three diseases which account for the bulk of excessive mortality among the negroes. Tuberculosis, for example, kills about 400 negroes per year out of each 100,000 in Illinois, while among the whites the rate is scarcely above 60. For pneumonia the average annual death rate among negroes in the United States during the 10 years ended with 1920 was 268 while among whites it was 158. Comparative statistics are not available for Illinois but the difference is probably greater since pneumonia is usually more prevalent among the blacks in the latitude of this State than in the south. In Tennessee, which is further south, the death rate from pneumonia among blacks in 1929 was 103 among whites 48.

For syphilis the statistics are more difficult to secure because this infection frequently leads to death from other ailments, especially heart disease. Thus mortality charged against syphilis directly, that due to heart disease and also infant mortality relate to syphilis. In Illinois the annual infant death rate among whites averaged 70 for the six years ended with 1927 while among blacks it was 126. In Tennessee

in 1929 the white death rate from syphilis was 8 against 44 for negroes while from heart diseases the rate was 107 among whites and 240 among blacks. These data would apply to Illinois, where comparative statistics are lacking, and they show that syphilis is many times more prevalent among negroes than whites.

All three infections are subject to control through sanitary, medical and hygienic programs. A death rate of 300 or 400 from tuberculosis used to be common among white people. There is every reason to believe that an equally vigorous campaign against the disease in blacks would result no less satisfactorily than that which has caused such a phenomenal decline in the prevalence of the infection among whites. Properly conducted programs against pneumonia and syphilis would bring similar results.

Under present conditions the negro population constitutes a great reservoir of these diseases which is a constant menace to the whites. So long as these three infections continue to prevail among blacks on the present scale, there is no hope of approaching an eradication of them among whites.

MICHAEL REESE HOSPITAL ESTABLISHES HEART CLINIC

August 15, 1930, the board of trustees of Michael Reese hospital announced the opening of a group of laboratories designed for research in diseases of the heart.

The laboratories were established primarily through a gift of \$20,000 outright and the creation of a trust fund of approximately \$120,000 by Mrs. Fannie Wedeles in memory of her husband.

"The investigation of angina pectoris and coronary sclerosis and thrombosis (hardening and obstruction of the arteries supplying the heart) have been chosen as the first problems for study," the announcement of the board of trustees stated. "Because of the major importance of these types of heart disease in our strenuous, modern, metropolitan existence and because of the high toll they exact among the finest of our men and women in the middle decades of life we have undertaken research on a large scale in this field."

In connection with the laboratories there has been established a special cardiac clinic which

employs two full time cardiac social workers who assist the doctors in adjusting patients to home, school and industrial problems. Special beds for the study of heart patients have been set aside in the general hospital wards. A full time medical director and a staff co-ordinate the various aspects of this project and the work of the clinical staff of Michael Reese Hospital along the line of diseases of the heart.

One of the activities of the heart group is the giving of post-graduate courses for physicians.

The work of the clinic is designed to assist in the country-wide movement for the prevention and control of heart disease from which there has been a constantly increasing death rate.

ATROPHY OF THE LIVER DUE TO CINCHOPHEN PREPARATIONS

Because of the extensive use of cinchophen by physicians as well as its rather extensive use in patent medicines which are used by the laity in the way of self medication the following timely editorial that appeared in the *Journal A. M. A.*, August 2, 1930, is here reproduced for educational purposes. We quote:

When cinchophen, or phenylcinchoninic acid, was introduced into therapeutics, about 1908 (reinforced by the trade name "Atophan"—the tophi remover), its striking effect on the elimination of uric acid captured the clinical imagination, which was at that time perhaps somewhat overconscious of uric acid. The product attained immediate popularity. The uric acid complex receded, and it was soon seen that atophan belied its name, for the tophi proved unreasonable and refused to be removed. The drug was found, however, to be an effective analgesic, much like the salicylates, with which it has many points of similarity. Since the taste is different, the popularity of cinchophen continued to increase, so much so that it achieved a place in the United States Pharmacopeia. Various esters and derivatives were advertised extensively for the benefit of those who do not like the flavor of cinchophen and incidentally for the benefit of the manufacturers, who could establish a monopoly on each little change. Thus cinchophen flourished, at the hands of the profession, and found its way into almost every household as a friend for the arthritic. "If it did no good, at least it could do no harm." This rubber stamp was widely used, for it was thought to be literally true. Only a rare skin eruption was observed as an undesirable effect—surely an insignificant risk in these days of automobiles, airplanes and gunmen.

Suddenly, in 1923, evidence became available indicating that this trusted and harmless household friend was causing fatal hepatitis. It is startling to reflect that

this condition must have been going on for fifteen years before it was discovered. Physicians had been prescribing the drug day after day and observing the effects. One becomes doubtful of the future history of other popular drugs; for instance, the barbitol derivatives. The case of cinchophen involves circumstances, however, which makes it rather exceptional; thus the hepatitis occurs only in relatively few of the patients who have taken cinchophen; it has no relation to the dose; it is often deferred for some time, perhaps some weeks after the drug has been discontinued, and, finally, some degree of jaundice often occurs spontaneously in the febrile conditions, which often exist when the drug is prescribed. All these factors served to divert attention from the drug as the cause.

What shall we do about cinchophen? Since there are many other analgesics about as effective as cinchophen in many cases, and without this insidious danger, the least that can be done is to avoid its use whenever possible. Unfortunately, this is not quite as simple as it sounds; for a physician may be easily led into prescribing cinchophen when he does not know it. He may avoid it under the official names of cinchophen and neocinchophen, or the original therapeutically misinforming names of atophan and novatophan; but can he be expected to keep in mind all the noninforming names which manufacturers invent, so that they may have something that they can copyright and that others are not allowed to imitate? In a recent communication, Dr. Rabinowitz listed twenty names for this group of drugs, and there are many more. Six of the names that he lists are applied to simple, unadorned cinchophen; how many physicians would recognize this under the name of Agotan or Quinophan or Phenoquin? The example illustrates the importance of the rule of the Council on Pharmacy and Chemistry which permits not more than one trade name, that applied by the original discoverer. This rule has often been attacked on business grounds, but the Council has insisted that multiplication of trade names hinders physicians in keeping informed about the nature of the drugs that are advertised. The rule protects those who use New and Nonofficial Remedies, but it can do little for others.

The case is even worse for the "patent" medicines that are advertised directly to the public. Now that we have been warned, physicians will doubtless be careful to restrict the use of cinchophen, to avoid known contraindications, and to watch carefully for the first signs of danger. Cinchophen should never be used without this close medical supervision; but "patent" medicine manufacturers can sell cinchophen to the public without restrictions, in mixtures of secret composition. It may be recalled that a considerable number of the cinchophen intoxications resulted from such a secret nostrum. The incident illustrates the importance of enacting laws to forbid the sale of "patent" medicines unless the active ingredients are declared on the label, so that the consumer has at least that much knowledge for his protection. The only restraint on the unlimited sale of cinchophen in "patent" medicines is the possibility of financial loss through civil damage suits.

Correspondence

AN APPRECIATION FOR DR. WILLIAM GERRY MORGAN, PRESIDENT OF THE A. M. A.

Monmouth, Ill.,

September 5, 1930.

Dr. William Gerry Morgan, President
American Medical Association,
Washington, D. C.

Dear Dr. Morgan:

At a meeting of the Council of the Illinois State Medical Society held this week in Chicago, a resolution was passed whereby I was instructed to write to you and to thank you in the name of the Illinois State Medical Society for appointing our good friend and past president, Dr. Charles E. Humiston of Chicago, a member of the Council on Medical Education and Hospitals. In this same resolution, it was stated that it is the opinion of the Illinois State Medical Society that Dr. Humiston, who has been a teacher in a Class A Medical School for many years, and who has been deeply attentive in all phases of hospital work and management, is extremely well fitted for this position.

Our society has been highly interested for many years in hospital standardization, and it has been our belief that the American Medical Association, composed of members of the medical profession in all branches, is the one organization actually fitted for this important work.

The Illinois State Medical Society believes that Dr. Chas. E. Humiston will be a valuable addition to the personnel of the Council on Medical Education and Hospitals, and that he will work untiringly for the best interests of the medical profession of this country.

Yours very cordially,

HAROLD M. CAMP, M. D.,

Sec., Illinois State Med. Soc.

MAKING CANCER A REPORTABLE DIS- EASE IN ILLINOIS

Silvis, Ill.,

September 22, 1930.

Dr. Andy Hall, Director,
Illinois State Department Public Health,
Springfield, Illinois.

Dear Dr. Hall:

At a recent meeting of the Educational com-

mittee of the Illinois State Medical Society it was agreed that each member of the committee should address you by letter with a statement of his own reaction or opinion regarding the proposal that cancer be made a reportable disease in Illinois.

Bear with me please, while I carry out the instruction which is mandatory upon me. You know that I have no wish to be presumptuous and my expression chronicles personal opinion only. I doubt the constitutional authority of any legislative body or executive agent of Illinois to make cancer a reportable disease for the reason that personal cancer is not recognized as a public menace. "Reportable diseases" have become so, because of public dangers inherent upon contagion. The accepted scientific belief of our period is that cancer is neither infectious nor contagious. My cancer, if any, is a personal affair which is in no way a menace to my neighbor; so long as accepted teaching upholds that belief, I propose to wear it privately and refuse to report it to anybody. Is there an agency in Illinois which can compel me?

I think I know several good reasons why the State of Illinois should not attempt to collect a voluntary list of citizens suffering with this ailment and I should endeavor to present them publicly should such action ever seem indicated. For your private consideration I suspect that one only may be conclusive, as it is to me, and I offer the attached newspaper clipping as Exhibit A: in which the *Chicago Tribune* of September 16, 1930, quotes Dr. Joseph C. Bloodgood of Baltimore: "No longer need patients living far from the great medical centers spend hundreds of dollars to visit the clinics staffed by experts. Their ailment can be diagnosed as readily and accurately if they mail x-ray photographs to the clinics."

My somewhat inadequate knowledge of human physiology forces me to the conviction that all claims of either diagnosis or treatment by mail border so closely upon quackery that my provincial mind cannot tell the difference: and I shudder at the thought of the financial gypping of its citizens which the State of Illinois might encourage by providing a free but authentic list of prospects for quacks. I feel that that would be extragovernmental business and small business for Illinois. I know that Dr. Bloodgood

had at one time a respected name among physicians: my own provincial respect is gone. I can only seek to help guard Illinois against error and I cite the inclosure as adequate reason why the State of Illinois should decline to participate in the preparation of sucker lists. The failure of authority likewise seems conclusive to me.

Permit me to cite a case: Two or three years ago a roentgenogram of mine made for a Chicago citizen, showed a tumor which I told her was probably an aneurysm of aorta and for which I advised equable and temperate living, under observation, other findings being negative. This woman was past middle-age and had consulted good doctors in Chicago and in Minnesota and my finding and advice were her first definite instructions. The negative was sent to her home in Chicago and was viewed by a good man. Two weeks ago she inhaled gas from a stove in a closed kitchen and presently died. During this summer she had endured one highly gratifying and one seriously disappointing esophageal dilatation. My presumed aneurysm has turned out to be an esophageal malignancy and it is my opinion that neither Dr. Bloodgood nor Norman Baker nor any other mail-order or radio expert could have told the difference at the time when I saw the picture.

I charged this woman a very nominal fee, indeed. Her other doctors did not abuse her I believe. She never was at any time a menace to her neighbors. She died in the realization of a discomfort which no quack could have saved her from. I am glad that her name never did appear upon any official "sucker list from the State of Illinois" with all the expense and unhappiness which such an inclusion would have exposed her to.

WM. D. CHAPMAN, M. D.

AN OPEN LETTER

September 18, 1930.

Medical and Dental Arts Club,
185 North Wabash Avenue,
Chicago, Illinois.

Dear Sirs:

I have received three bills for the quarterly payments on yearly dues of the period July, August and September.

My membership in the Club represents about

five hundred dollars paid in up to date. During that time I have been inside it not more than six or seven times, three of these times being at dinners held by other organizations. This, of course, is not the fault of the Club, if I have not made use of it. I joined only out of sentiment and belief in that there should be a professional club, and of course have paid my dues faithfully and promptly.

The club was taken over by the bondholders in August, and as far as I am concerned became Strauss and Company's Medical and Dental Arts Building. My obligations to the club are about one-third of \$13.75, or roughly \$3.60 for the period from July to August.

If someone is willing to take the time to explain the justice of further bills, I shall be glad to receive a reply. In fact, I expect and feel one is due. I pay my bills promptly and do not care to receive bills indefinitely for something for which I feel would be throwing good money after bad.

Sincerely yours,

GERARD N. KROST,

2376 E. 71st St.

THE REPLY

September 23, 1930.

Dr. Gerard N. Krost,
2376 E. 71st Street,
Chicago, Illinois.

My dear Dr. Krost:

Your letter of the 18th just received. You may recall that I have reported from time to time that we had an understanding whereby the medical and dental professions were given five years in which to redeem this property. I would not have given liberally of my time and energy during the past two and one-half years merely for the purpose of helping Strauss and Company increase the income and take ownership.

Strauss and Company do not want this building. It is their earnest desire that the medical and dental professions come into ownership. Our attorneys are endeavoring to negotiate a contract looking to that end. There should be a medical and dental headquarters in Chicago where visiting physicians and various medical and dental meetings can be held with the service and accommodation in keeping with the dignity of the two professions.

The original plan provided for the organization of another company or association—a trust or foundation—a medical and dental foundation for the receiving of funds either by donation or will and the ownership of property. The foundation to be in trust and operated for the benefit of the Chicago Medical and Chicago Dental Societies. Should other special medical and dental societies become interested as such, they also to elect from their membership representatives upon the board of governors of the foundation. The Medical and Dental Arts Club shall elect representatives to the board of governors and receive benefit therefrom, looking to the reimbursement of the men who have paid dues, bought stock and memberships, and loaned money for the equipment of the club.

There are now some seventy medical and dental and allied meetings held in the club rooms per month. The three or four hundred members of the medical and dental professions who have been paying their dues have made this and the ultimate ownership of the property possible. The board of governors hope that they and other friends will continue to support the proposition until an adequate and satisfactory financial program can be agreed upon and presented to the membership for adoption.

It is the board of governors' desire that the entire membership of the Chicago Medical and Chicago Dental Societies in good standing be members, per se, of the Medical and Dental Arts Club, and that the club shall become a famous meeting place and that the profession shall look forward with pride to meeting of the same the general medical and dental headquarters for the Century of Progress in 1933.

Yours truly,
Board of Governors.

TAKE NO CHANCES

A jockey was suddenly taken ill, and the trainer advised him to visit a doctor in the town.

"He'll put you right in a jiffy," he said.

The same evening he found Benjamin lying curled up in the stables, kicking his legs in agony.

"Hello, Benny! Haven't you been to the doctor?"

"Yes."

"Well, didn't he do you any good?"

"I didn't go in. When I got to his house there was a brass plate on his door—"Dr. Kurem. Ten to one"—I wasn't going to monkey with a long shot like that!"

LEARN THESE FACTS ABOUT CANCER

Truths that everyone should know about cancer are listed in an article in the April *Hygeia* by Dr. Francis Ashley Faught.

Cancer begins as a single spot and is at first always a local disease; as such it is removable and permanently curable.

Cancer never dies out of itself, but continues to grow until it destroys the life of the person in whom it grows.

Cancer is not a blood disease; it is the abnormal growth of normal cells in the body.

Cancer is in no way infectious or contagious.

Cancer chooses to attack diseased rather than healthy parts; therefore cancer may be considered in some instances a preventable disease.

Precancerous conditions are those which are not yet cancerous but may become cancerous if neglected.

Chronic irritation is a definite precursor of cancer.

There is no safe, simple serum, drug or other remedy for cancer.

Surgery, X-rays or radium, singly or combined, are the only known methods of treatment.

The periodic health examination is a valuable preventive measure against cancer.

HOW LARGE IS A TEASPOON?

In a recent number of the *American Druggist* there appeared the following:

"Physician directs a teaspoonful. You write it on the label. Pick up some of the teaspoons in your own home. Measure the capacity of each. Note the difference between what one holds as against another. Obviously every teaspoon used for administering medicine should be a standard teaspoon. What are we to do about this?"

Now that the druggists have taken up this question, it seems pertinent that the physicians should do the same. We shall be glad to hear from our readers exactly what they think of this question.

It is interesting to note that an announcement from the Drug Trade Bureau of Public Information says:

"For a few cents the family medicine chest can be supplied with a graduated 'medicine glass,' thus avoiding possible 'over-doses' or 'under-doses' in the administration of medicines."

This warning is one of a series of suggestions relating to the handling and administration of medicines in the home, issued in connection with the observance of First-Aid Week. Some of the suggestions are as follows:

"Never take medicine in the dark.

"Always look at the label and read the directions before taking a dose of medicine.

"Never increase the dose or take it more frequently without consulting your physician.

"Pour from the bottle with label upward. This keeps the label clean and legible.

"Never take medicine originally intended for others; the drugs it contains may be entirely unsuited for your condition and be actually harmful."

Original Articles

OBSTETRICS*

J. S. TEMPLETON, M. D.
PINCKNEYVILLE, ILL.

The position of woman in any civilization is an index of the advancement of that civilization. Since woman's place is best gauged by the care given her at the birth of her child, the advances and regressions of civilization are seen nowhere more clearly than in the story of childbirth.

Childbirth was accepted among primitive peoples as a natural process. And as such it was treated with indifference and brutality. At the height of the Egyptian, and again at the height of the Greek and Roman, civilizations the art of caring for the child-bearing woman was well developed. With the decline of the Greek and Roman civilizations the care of woman deteriorated. For thirteen centuries the practices developed by the Greeks and Romans were lost or disregarded in Europe. The art of caring for child-bearing was not brought back to the level of its former development until the sixteenth or seventeenth century of our era.

With the renaissance of European civilization, there came a change in the care given the child-bearing woman. This change was slower in advancing than were many of the other changes which marked this period. Material advancement came before humanitarian advancement. The hazard of child-bearing, and the number of deaths at birth due to neglect is not altogether the fault of the medical profession, which can give no more than a community will accept. It cannot of itself overcome the inertia of civilization, nor say what value shall be placed on the lives of women and children.

In 1739 a special department for instruction in obstetrics was created in the University of Glasgow. In America the first record of a man midwife appeared six years later. The New York Weekly Post Boy for July 22, 1745, stated, "Last night died in the prime of life, to the almost universal regret and sorrow of this city, Mr. John Dupey, M. D., Man Midwife." Concerning this character it may be truly said as David did of Goliath's sword: "There is none

like him." Later there is mentioned Dr. Atwood, also of New York, who is remembered as the first doctor who had the courage to proclaim himself a man midwife. It was deemed scandal to some delicate ears. Mrs. Granny Brown with her fees of two or three dollars was still the choice of the majority who thought that women should be modest. King's College of New York City, later Columbia University, preceded the College of Philadelphia in giving the first regular degree in America, since its course of instruction was shorter than that in the Philadelphia school. In 1769 Columbia graduated two men, having overcome in the meantime its regard for Granny Brown to the extent of giving instruction in obstetrics.

The American Revolution interrupted the teaching of obstetrics at the newly founded school of Pennsylvania. Little was accomplished in the next half century to alleviate the suffering of child-bearing women, although men of outstanding ability such as Meggs of Philadelphia, Simpson of Edinburgh, Soranus, Pare, Holmes, and Semmelweis championed its cause. Semmelweis labored through a lifetime of opposition and persecution in the vile wards of the great charity and lying-in hospitals of Europe. He found the cause of puerperal fever, controlled it in the hospitals where he worked, gave a practical method for its eradication, and died of its infection.

The use of anesthetics to alleviate the pain of surgical operation and child-birth was unknown before the middle of the nineteenth century. The use of anesthesia in surgical operations is now commonplace. The use of chloroform in child-birth was introduced by Simpson in 1846. He was denounced by the clergy and the people of Scotland. He replied to these accusations in a series of papers of such theological skill and sound logic that little was left to be said against the use of chloroform. It is a discredit to those who have practiced midwifery since Simpson's time, more than three-fourths of a century ago, that more has not been made of the wonderful method he introduced. The time will unquestionably arrive when the general attitude now existing in regard to anesthesia at childbirth will be looked back upon, and considered as barbarous, as were the conditions in surgery in pre-anesthetic days.

It has been said that had the male side of the

*Read before Southern Illinois Medical Association at Benton, Nov. 7, 1929.

human race been bearing the suffering of childbirth, we would have long ago found more universal means of relief. That cannot be charged against us justly, for many centuries passed when midwives were delivering practically all babies and even less progress was made than we are now making. History reveals that women obstructed rather than assisted in the alleviation of suffering during their days of obstetrical work.

I have tried different methods of anesthesia and prefer chloroform for general use. With a competent nurse or helper to administer it chloroform relieves the intense suffering of childbirth, and sufficiently soothes the patient that any of the usual obstetrical operations are performed without pain or danger. In my experience neither mother nor baby have been injured by its use.

Not only is chloroform a pain reliever but it is very useful to relax the rigid perineum and the uterus. A version is accomplished with less effort and less danger if the patient is thoroughly anesthetized.

We are told that at the present time about fifteen thousand deaths occur annually in the U. S. from maternal causes. The rate for Illinois is 5.4 per one-thousand—a full point higher than Great Britain has experienced any year for the last twenty years. The Southern section of Illinois is higher in birth loss than either the northern or central section. With these facts in mind it certainly behooves us to give this matter careful consideration.

I have been asked to review my obstetrical experience for whatever benefit it may be to those who practice obstetrics.

My records show three deaths from puerperal eclampsia, another from an affection of the brain, either an embolus or hemorrhage. No doubt some of these could have been saved by proper prenatal care. This report is based upon about two thousand deliveries, extending back over a period of thirty years. And although during the first half of that period little attention was given to prenatal care, it is embarrassing to admit that even a few deaths were directly chargeable to the ignorance or neglect of either the public or our profession. We cannot bring back those who have slipped away from us, but in the future we can be sure that any deaths

which may occur are not caused by our ignorance or negligence.

One fatal case in my experience occurred in recent years. I saw the patient only a few days before confinement, and cannot say just what care she had been given. In another case the husband consulted me only a week before his wife was taken sick. There was no opportunity for even a urinalysis. The other two deaths occurred early in my practice, and I feel sure that neither had proper prenatal attention.

Two problems confront us. One is, by what means can we arouse the profession to the importance of prenatal care, that the time may soon come when every woman we are called upon to care for has proper attention.

The other is how to educate the public to the idea that, although maternity is a physiological process, every pregnant woman should be watched to be sure that the body's organs are all functioning in a normal manner.

Most pregnant women need examination and advice as to their exercise, diet and medical aid. But time forbids my advising what prenatal care should be given.

In my records hemorrhage was the most outstanding factor in the other three deaths. One was a bad presentation with a placenta praevia. It was necessary to do a version. A free anti and post partum hemorrhage so depleted the patient that she died of shock after delivery. Proper prenatal care might have enabled this patient to survive even though conditions were against her. The other two had suffered severe cervical tears at previous deliveries and had been repaired. A difficult delivery and hemorrhage caused death. Possibly an immediate repair of a severely torn cervix, which we would now do, or a Cæsarian operation would have saved them. Not that we should attempt to repair every lacerated cervix immediately. Many of them are so slight they will heal without stitching, and many of our cases are where we have a poor chance to practise asepsis. To repair any cervix immediately after delivery one should have competent assistance and strict cleanliness.

Following prenatal care an important factor is presentation and delivery. Little need be said about a normal head presentation though it may require time and patience. If the baby comes properly the head must be kept from

bearing too heavily on the perineum or from being expelled too rapidly which endangers the perineal body. The child's mouth must be cleansed from mucus promptly.

Of the abnormal presentations, the occipito posterior has given me the most trouble. We are advised to change them to a face presentation, but I have found that hard to do. My experience has been that a podalic version is the best procedure provided we see the patient in time. I have delivered several babies occipito posterior with instruments. In some of these cases there was but little damage done to the mother though the method was often dangerous and difficult.

I have lost few babies and no mothers on account of breech presentation. I prefer converting them into a foot presentation, if possible, though the same trouble may arise delivering the head either way. I make sure the occiput presents anterior and complete the delivery by inserting my finger into the child's mouth, bringing the child's body to right angles with the mother's body, and delivering the head face first.

It is advisable to convert knee, elbow and shoulder presentations into foot presentations. The advantages are many. In the case of a placenta praevia the feet and legs can be brought down into the lower portion of the uterus and often provide the necessary pressure. This is a part of the child's body which is not so easily damaged as the head. Unless too much pressure is made the cervix is dilated gradually and the mother is unharmed.

Normal deliveries may occur with either a head, breech or foot presentation. Without proper care the child may be lost or the mother receives serious injuries even though the delivery be normal. It is not in these cases however that our greatest troubles arise, but rather in the abnormal delivery. A head may come down to the perineum and yet be so delayed that forceps are necessary. My experience is that both care and skill are often required to deliver a child in occipito anterior position. One is apt to fasten the forceps on the right side of the mother over the child's right eye instead of over the parietal bone as it should be. Much damage may be done to the child though the operation in this presentation may seem very simple. Keep

in mind the child's head position and attach the forceps accordingly.

Potter, in his recent writing states that ordinarily version is to be preferred rather than a high forcep operation. My experience leads me to say that version is safer for the child than many high forcep operations and possibly as safe for the mother.

In a recent article by Danforth printed in the ILLINOIS MEDICAL JOURNAL he bemoans the untimely use of pituitrin. To me pituitrin has been a great help. In recent years I have had fewer still-births, and am satisfied that few if any mothers have been harmed by it. Dr. Danforth has probably done more consultation work than I, and has seen how the other fellow uses it. Ten years ago I read a paper before this society, and at that time questioned the routine use of pituitrin. I am using it now in the majority of my cases but never until the cervix is dilated and often only to secure firm contraction after delivery of the child.

From July 1, 1925, to Jan. 1, 1927, I delivered one hundred and sixteen babies, using as my records show pituitrin in exactly one hundred cases. There was but one still-birth and it was one of the sixteen where pituitrin was not used. There were no maternal deaths and so far as I could ascertain the mothers are all in good health at the present time. Several of them have given birth to healthy babies since, in a normal manner. One of the hundred babies died at six months of age of colitis. Others, I think, are all living and well. This is the only period that I kept an accurate account of my use of pituitrin.

I still use ergot in practically all of my cases and believe in its effectiveness. A normal delivery of the placenta and a well contracted uterus is undoubtedly a reason we have so little puerperal fever. Of the few cases of puerperal fever which I have experienced the worst was a spontaneous delivery, cared for by the husband of the patient. Though she recovered, her life has not been the same since. I have often wondered what kind of germs could have been on that man's hands to make a woman so desperately ill. Speaking of the delivery of the placenta, I use Crede's method and seldom have much trouble. It seems to me that often our trouble is caused by tension on the cord if it

is wrapped around the neck or otherwise, the placenta body is pulled down out of its elongated position. In a recent picture of a placental delivery, I noticed it was allowed to drop into a pan, its weight pulling the sac after it. It seems to me better to support the placental body with the hand and wait for the sac to follow without tension.

After delivery there is a child and mother to care for. I am happy to say that you will hear another on the care of the child, one who specializes in that subject. Just one word about the child before we hand him over to the pediatrician. I am of the opinion that it has been our custom when resuscitating a child to use entirely too much force. We try every kind of artificial respiration, we swing him in the air by his feet. This seems about as crude as the mother doddling her sick child on her knee. We do not recommend that, so should not practice it on the new born. Good artificial respiration may be produced by placing a catheter in the trachae and blowing air through it into the lungs. If the child has not a fatal injury it will breathe and recuperate.

Another absurd idea is that of keeping the mother in bed ten days and then permitting her to get up and work. She may sit in a chair even though it has been only seven days if she feels able and her confinement has been an ordinary one. But she should remain off her feet for three weeks and do little, if any, work for six weeks.

I am able to speak of only a few of the troubles that beset us but you will observe from this brief report of my obstetrical experiences that it is no granny job. That seems to be the trouble in Southern Illinois. How many have we majoring in obstetrical work? How many obstetricians have we in this lower section of Illinois?

Obstetrical work is largely done by the general practitioner or surgeon, men who, many of them, at least, consider it unimportant business.

We are very fortunate in having an efficient and fearless man at the head of our department of health, to call our attention to our shortcomings. He is upheld by a Governor who is interested in the welfare of every citizen of this great Commonwealth, and will assist us in every way possible. Having this assistance, we do not want or need any federal interference.

In all my studies, of the history of maternal welfare, I have not found a single instance where governmental interference has improved conditions or in the least lessened the pains of childbirth.

No doubt you noticed from the historical part of this paper that Granny Brown was very popular. History reveals that this has always been true. And though we are centuries from the Granny Brown referred to, the same spirit too often prevails today. Physicians are partly responsible for this condition. We do not charge fees commensurate with other surgeons. Carl Henry Davis of Milwaukee says, "Obstetrics has always been the most time consuming and poorest paid work a physician undertakes." How many of us have in our libraries half as many books on obstetrics as we have on medicine and surgery? If we, in Southern Illinois, who practice obstetrics to any extent, consider the work a granny job, a job not worthy of our best efforts, the child-bearing women and the infants of our section are going to continue to suffer because of our attitude toward this important matter.

THE MENTAL HYGIENE MOVEMENT*

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There was held in Washington, D. C., the week of May 5 to 10, the first International Congress on Mental Hygiene. On November 14, 1929, there was held in New York City the twentieth anniversary of the inauguration of the Mental Hygiene movement and the founding of the National Committee for Mental Hygiene; the sponsor for the first International Congress recently held. Both of these meetings were historic in their portends. I say historic advisedly, because they both mark an era which concerns the medical profession in particular, and in general the community, the family and the individual. Dr. William H. Welch, Director of the Department of the History of Medicine of Johns Hopkins University, whose birthday was recently honored by national recognition, in his address

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before the guests at the twentieth anniversary dinner said, "The history of great movements like that of Mental Hygiene is often obscure. It is often a difficult thing to disentangle all the threads which lead to some great movement. In the tuberculosis movement, it is a rather complicated story before you come to the actual conception of the movement as we recognize it today. But the historian will have an easy task when he inquires into the origin of this Mental Hygiene movement. It is just one man and one book. I do not know any kindred movement where the story can be told in so few words, so directly. It is one man, Clifford W. Beers, and one book (*A Mind That Found Itself*). Other books have been written by those who have gone through mental disturbances, but no book, in any way in my judgment, is comparable to his. It is of interest to psychologists, of interest to psychiatrists, of interest to humanitarians—to all who are interested in great social movements."

This book, "*A Mind That Found Itself*," is unique, based as it is upon the experiences of Mr. Beers as a victim of mental disorder. It has a broad comprehensive view point in its consideration of the social aspects of the problems of the treatment and care of the insane. The book, in the reviews and its circulation, attracted the attention of representative psychiatrists and other physicians, sociologists, social workers and representative laymen interested in social evolution and social welfare. The results, in brief, were evidenced in the formulation of plans to give to the science of mental medicine its longed for chance to enter the field of social welfare with a definite program. The National Committee for Mental Hygiene was organized. Its early activities, under wisdom and foresight of the Medical Director, the late Dr. Thomas W. Salmon, were largely directed toward a survey of the then existing conditions as to the care and treatment of the insane and feeble-minded; the legal phases regulating the status of these wards of the State, and a general understanding of the very varied problems arising in consequence of mental disorders as they exist in a community. As these problems concerning the mental health of the community, and the State were delineated, it became evident that problems of mental health in its varied relationships, especially its social

results, were not only profound in their scope and importance, but as problems of the individual they were unique and had intrinsic worth of their own. It brought to light the conspicuous fact, which exists today on the part of the man on the street, and even among physicians, the stupendous vagueness of general knowledge regarding mental health and mental disorders. Further, the odium cast upon mental disorders by reason of ignorance and superstition which still prevails, made the problems of such disorders more complex and inhibited progress in discussing their importance and in formulating plans for organized endeavor to meet the existing scientific and social demands for their relief. Out of this chaotic mass of perplexing and complex conditions, mental hygiene, as a movement, arose. It defined its mission as a movement directed toward the conservation of mental health of a people by a study of the ways and means to prevent mental and nervous disorders; to preserve the integrity of the mental status of individuals and to study, not only the problems of the individual with reference to these desired ends, but to have comprehensive knowledge of all the factors which enter into these problems. Mental hygiene, as a movement, implies and must necessarily include, a wide range of activities. Mental hygiene deals with the individual. Mental hygiene deals with problems of human behavior. This necessarily implies familiarity with the sciences having to do with the individual as regards his behavior. It includes heredity; his reactions to environment which included the climatic conditions under which the individual lives, as well as home environment, his childhood training, education and social factors. Under the consideration of heredity, upon which modern science has laid tremendous emphasis in evaluating native constitutional potentials, it is imperative that we know what kind of an individual with whom we are dealing, as well as what form of disorder with which he is afflicted. Mental hygiene falls in line with the trend of modern medicine in general, in seeking not only to care for the immediate needs of the unfortunate sick, but in addition seeks the causes of disease and disorder, whether they be physical or social or both. Familiarity with the laws of biological and social evolution, as they apply to the phenomena of human existence, enter into

the individual problems of mental hygiene. These laws are not necessarily limited to the study of mind as such, excepting its mental mechanisms; nor to intellectual development as such, excepting to estimate the intelligence quotient of the individual; nor to mental disorders, as such, excepting the delineation of their clinical values, but rather to the more comprehensive consideration of social evolution and progress of man as a social being. Mental hygiene, as a biological science, has its roots in the social evolution of our times. In fact its problems deal with social situations with biological factors in the background. Mental hygiene includes the ensemble of sittings, so to speak, rather than with symptoms or even disease entities.

Psychiatry, as the technical term for mental medicine, you must remember, is a young science and only within the past quarter of a century has really come into its own. As a special science of human behavior, it touches upon and embraces all of the most intricate problems in the fundamental sciences of biology and medicine in general, and in particular, the social sciences (the humanities). It is thus seen that psychiatry or mental medicine has intimate contact with the diverse fields of social and moral activities, intrinsic factors in the problems of human behavior, as well as direct contact with scientific research in all of its branches. Internal medicine with its laboratory adjuncts, is of invaluable aid in dealing with the physical factors which, directly or indirectly, contribute to the essential behavior problems. The nucleus of the psychotic problems and the mental hygiene problems, is to be found in the maladjustment of the individual to his environment or the circumstances of life, in consequence of which he is precipitated into a dilemma. These dilemmas are very human. All mental problems are primarily and essentially human. They are personal and as such we all may be victims of minor mental maladies, as Horace so aptly stated hundreds of years ago. Here is where mental hygiene enters to enable the physician to be a guide, a friend, to chart the route that will enable the patient to "carry on." Let us not forget that wherever troubles are heaped together; wherever the dilemmas are greater than the individual can bear or fathom; wherever reality is too much of a burden and the individual takes flight from

it: wherever environment is overwhelming and circumstances engulfing, then there is need for the human science of mental hygiene. Here is where the family physician, the friendly lawyer, the kindly and knowing teacher, considerate pastor and wholesome neighbor can aid in formulating an estimate of the individual problem case. To properly estimate the intrinsic factors in such cases we must know the patient, his sittings and his human relations. Let us not forget that mental symptoms are symptomatic only. They mean complexities, conflicts, physical disorder, inadequacies, etc. The behavior problems thus symptomatically portrayed demand interpretation. In clinically interpreting problem cases of whatever form, let us be mindful of the fact that the term insanity does not belong to clinical medicine. Insanity is a legal term. It means an anti-social condition whereby the presence of an individual in the community is a menace to the peace and comfort of that community, or that the individual is no longer responsible for his acts and, thereby, he may jeopardize the welfare of himself, his family, his property rights, or endanger his own life or that of others. Then it is the law steps in and alienates the patient from his rights as a citizen. He then, if adjudged *insane*, becomes a ward of the court. Until so declared by the law, the individual is not insane. It is unfortunate that this term is not obsolete like the term lunacy. To warrant or to define the application of the term insanity there must be presented all of the factors, properly estimated which enter into, and have clinical value in, making the diagnosis of the existence of mental disorder within the purview of the law. Mental disorders, other than so-called insanity, constitute the great majority of cases met by the clinician. They represent largely the failures to adjust adequately to the everyday experiences in life. From the scientific point of view the study of the early case should lead to more accurate information in regard to all factors that may enter into the case, thus leading to differential study of incipient psychoses from functional maladjustments.

The family physician misses the scientific point of view, in his too frequent pronouncement that "there is nothing" the matter. Let me remind you that Peabody was right when in speaking of the case of the patient, that, excluding

cases of acute infection, "approximately half of the physician's patients complain of symptoms for which an adequate organic cause cannot be discovered. Numerically these patients constitute a large group and their fees go a long way toward spreading butter on the doctor's bread." What is the matter with these patients? "Technically most of them come under the broad heading of the psycho-neuroses; but for practical purposes many of them may be regarded as patients whose subjective symptoms are due to disturbances of the physiological activities of one or more organs or systems. The ultimate causes of these disturbances are to be found, not in any gross structural changes in the organs involved, but rather in nervous influences emanating from the emotional or intellectual life, which directly or indirectly affect in one way or another organs that are either voluntary or of involuntary control." Exhaustion and its mechanisms represent the clinical pathology.

Here is where the psychiatric approach to clinical problems, involving mental disorders, should be considered by the general practitioner, as part and parcel of his obvious duty in the care of his patient. In every community, both great and small, there is need for the practice of psychiatry, especially in mental hygiene as regards prevention and early care, truly within the ways and means of every family physician. Of special importance is the information, carefully collected and sifted, that will lead, as before said, to the differentiation in diagnosis, of incipient psychoses from functional maladjustments. True, the interpretation of these problems must be sought not only in the mechanisms of adjustment—of adaptation, but such responses as considered in relation to the individual's general physical qualities. The latter defines his personality and is born with him. Judged in relation to conventionalized and standardized situations, social customs and morals stamp his character. The ensemble suggests both stability and progression, making a man what he is, or marking him off for all that he is not. Every practitioner has brought home to him the fact that minor psychotic states are recognized as existing in certain individuals, but the family, relatives or friends, pay little heed to the existing mental conditions until some overt act is committed, then, and too infrequently—not until then—is any action

taken toward care or treatment. What is needed is the psychiatric approach which means a scientific view point "that considers mind and body, the physiological and the social environment as a unity, one and indivisible."

A psychic (mental) trauma may be creative in activating a predisposition to an organic psychosis (such as paresis) on the one hand and social reaction, in a psychotic predisposed individual, to a definite morbid mental symptom complex on the other. The general practitioner by recognizing early these morbid trends may, by appropriate council and treatment, be of service in adjusting the patient to the situation in hand. While the physician may not succeed in entirely dissipating the psychotic symptoms, he at least can be of service in directing the attention required to ameliorate and protect existing conditions. As in general medicine and surgery, so in psychiatry the physician has his limitations in the treatment and cure of diseases.

It is unfortunate that the current belief among physicians, in general, that mental disorders, as such, are uncanny, more or less hopeless as regards the results of treatment. It usually is the social factor which is the handicap to the psychotic patient. His invalidism, however slight, but if permanent, removes him from the social (by social I mean contacts with his fellows) activities of everyday life. He leads, perhaps, a protected and restricted life in his home, in a hospital for mental disorders, or elsewhere. I am one who believes that the services of the physician are not altogether unavailing if the patient shows improved attitudes toward circumstance, environment and a healthy social reaction. Lord reminds us that psychiatry has its roots in general practice. He looks forward to the time when every practitioner will be a psychiatrist. I would add, and to the same dependable degree, that he is a surgeon, an internist or an obstetrician. This means that all of the large teaching hospitals affiliated with medical schools will have an organic unit devoted to mental disorders, thus overcoming the isolation between psychiatry and general medicine. Thus, will be relegated to the past the odium and evils of mental disorders which ignorance, superstition and evasion now put on such disorders as they occur in every community.

What is needed is understanding of the fact

that we are dealing with very human problems. So human that in understanding these problems of human behavior we would do well to overlook the traditional clinical designation insanity or even mental disorders, and with Campbell say we are considering men, women and children in difficulty, suffering, hoping, thwarted, groping. Campbell emphasizes the well known fact, that the very word mental tends to arouse vague feeling of mystery; we seem to leave the solid ground of actual scientific observation, and to float into an atmosphere in which disembodied spirits and Greek terms play important roles. "To avoid this uncanny word mental," says he, "many of our patients are said to suffer from 'nervous' disorders. The term nervous is more palatable; nerves are tangible and visible structures, a nervous breakdown is respectable, a nervous relative can be talked about. A mental attack is taboo, not to be talked about at any cost, even at the cost of postponing indefinitely the only treatment which will help the patient. It is well to face facts, and to recognize that so-called nervous patients are, as a rule, suffering from mental disorders, and the substitution of nervous for mental is due to a vague fear of the mental, inherited from mediaeval and earlier modes of thought."

It is just here that the scope of the mission of mental hygiene should be considered by both physician and laymen, in order that familiarity with mental disorders should approach the same understanding, as do the current beneficent interests in public health measures in general and in personal hygiene in particular. What is needed is more knowledge of human nature and human behavior. There is a growing interest in the study of human nature and human behavior. The very varied problems that demand interpretation, evaluating the significance of symptoms presented and seeking their causes, prove that human nature is an important and interesting object of investigation. The mists of ignorance are being dispelled and in their dissipation there is revealed the extent and importance of this new field of inquiry, the study of human behavior. That human behavior as a constructive scientific inquiry has values, is shown in the ever increasing accuracy with which the synthesized activities of human beings as expressed in behavior, are being revealed. Paton

stresses this fact in the following words: "When once the principle was recognized that human behavior was a synthesis, and therefore something more than the mere sum of the functions of all parts of the body, then it was possible to lay the foundation not only for scientific interpretation of the phenomena of nervous and mental disorders but for actual progress in attacking the problems relating to the laws governing normal behavior and conduct."

Behavior problems are a motley group. They begin with the infant in arms, include all of Shakespeare's seven ages of man, thus ending with the old man in his dotage. They include not only the mental, but the physical and mental qualities that enable a person to face and adjust adequately to the critical situations in life, and not simply to think, to brood over their very varied problems which confront every living person. Alas! too many people do not understand that the final test of a sound mind implies adequate behavior adjustment; intelligent living, not merely intelligent thinking. Therefore, to get the proper perspective of a problem case, knowing that "Man is an interesting bundle of amazing paradoxes, a mixture of constructive and destructive tendencies," it is important that we begin at the beginning in our approach to the study of the case. We necessarily must be familiar with the laws governing normal behavior and conduct, as revealed in genetic psychology.

The genetic point of view in mental hygiene is of equal, if not greater importance, than that of somatic hygiene. In all stages of mental development the normal can be determined by the genetic method. The genetic psychological method concerns itself with questions of mental evolution, development and growth. The terms development and evolution suggest development of the individual mind from infancy to maturity. That the evolution of the mind of a baby is intensely interesting will be proven to you, if you will read "The Biography of a Baby" by Milicent W. Shinn. The mind of a child has been a source of creative investigation for many years. Many of you will recall the Child Study movement of over 30 years ago, fostered by G. Stanley Hall. It was a very popular educational movement, so much so that the Illinois State University gave it recognition. The late Dr. William Krohn, whom most of you knew, was the head

of the department. He came from Clark University of which Stanley Hall was president. He had received his Ph. D. degree abroad under Wundt. Later he studied medicine and specialized in the medico-legal problems of neuropsychiatry. Stanley Hall, in his philosophy of genetic psychology, advanced the theory that in the evolution of the mind of a child, it really recapitulated the history of the mental development of the race of man. Childhood, at its various chronological periods in mental and social evolution, presents certain traits, aptitudes, trends, etc., in behavior patterns, which really are proto-types of racial inheritance, marking a recapitulation of the historical march toward present day mental abilities and the social status of man as we know him today.

Reasoned living begins in childhood as evidenced in the problem cases to be found in every primary grade in our public schools. Here is where the psychiatric approach is needed in the study of children who are problems in mental hygiene. These problems may be found to be due to mental deficiency. On the other hand, they may be problems due to faulty living in which environment and circumstances enter as factors. Here is where child guidance in its new accepted meaning comes to study all of the factors that are a part of, or contribute to, the problem case. Mental deficiency is more or less a clinical psychological problem in which intelligence rating is primal, but environment and circumstance are by no means negligible factors. In fact the consideration of the problem, as a whole, is the only satisfactory way to handle a problem case. This means first a full history as complete as to the family and the individual, as possible. Next health history and complete physical examination, including laboratory findings. Then clinical psychological rating; then the tactful inquiry into the personal problem as the individual sees it. Thus may be revealed a mental deficiency problem or a maladjustment problem in family or school life or a delinquency problem with or without mental deficiency. Here is where the psychiatric approach is needed on the part of the family, the physician, the school nurse, truant officer, police and Juvenile Court officers. They need to remember that the child is a living organism, meeting difficulties as his mind develops, in adjustment to living condi-

tions in the world in which he is obliged to live. What is needed is wise guidance in coordinating the functions of body, mind and soul, remembering that there is extraordinary close connection between what we do and what we think. To enable the child to think, feel and act in the right way at the right time is the major objective of child guidance, as we understand it today. These problems are met in every community; they are part and parcel of the child welfare movements now in evidence in the activities of modern social service. Problems in which the physician, as a professional duty, must enlist as he has done in the tuberculosis movement. The topical program of the first International Congress on Mental Hygiene, recently held, stressed the problems of childhood. Fully one-half of the program was devoted to the child on the basic facts that "the child is Father of the Man" and "as the twig is bent the tree is inclined." Dr. Frankwood E. Williams, Medical Director of the National Committee for Mental Hygiene, emphasizes White's dictum, that childhood is the golden period of mental hygiene," because it became apparent that when one discussed functional nervous and mental illness, delinquency, dependency, education and industrial failure, divorce and broken homes, one was not discussing a series of different problems but different manifestations of the same problem—the inability of individuals to adjust to a complex social life because of a lack of an adequate emotional organization. And as the ground work for emotional organization is laid in childhood, that period, as Dr. William A. White has phrased it, becomes "the golden period of mental hygiene." This all seems so simple and obvious now that it is difficult to understand that it was not always so, but the history that is back of it is a long history of hard and careful work on the part of many people in many places. Once arrived at, attention is immediately focused upon the matter of child training, which means education on the part of the parent as well as the child. Many influences play a part in the development history of the child; but as the child is most closely in touch with parents, family and teachers, it is from them that we must expect the child to obtain seeds that flower later. More and more, therefore, have mental hygienists been focusing their work on the period of childhood and par-

ticularly upon the problems involved in the parental and teacher relationships; and the most hopeful and constructive work in the field of mental hygiene today is that which has come to be known as "Child Guidance work." These problems begin with the child of pre-school age when personality, born with the child, first asserts its potentials; then during school age, especially the nascent period between the years of 8 and 12; the pubescent period (pre-adolescence), then the dawn of adolescence merging gradually into full adolescent stage of life. Stanley Hall says adolescence is one of the most fascinating of all themes, more worthy perhaps than anything else in the world of reverence, most inviting study, and in most crying need of a service we do not yet understand how to render aright. No age is so responsive to all the best and wisest adult endeavor. In no psychic soil too, does seed, bad as well as good, strike such deep root, grow so rankly, or bear fruit, so quickly. Here, the physician has an important role in this play of life, as councilor, because modern life is hard on youth. Home, school and church fail to recognize its nature and needs. We need more Fosdicks in the pulpit, more Clarks as Deans in our Universities, more Salmons as teachers and directors to formulate our science of mental hygiene, and then to apply it to the social welfare of our people. We need more Thoms and Richardsons to teach the parents and teachers child guidance. But above all we need wisdom which comes from experience backed by real knowledge, that will stress, for the plastic youth of today, that character and personality are fundamental in meeting everyday problems in this everyday life. While it may be true that never has youth been exposed to such dangers of both perversion and arrest in character moulding as today, yet I, for one, am an optimist, in spite of the storm and stress of this so-called "Jazz age." We have always had the problems of youth—each of us had them to meet—but in spite of antagonisms to genesis, youth in proportion to our population is conquering and *achieving*. Youth may prematurely specialize in his activities but the American College and High School are not turning their products, even though they may be half-baked, into the social stream without great advantage to society, to the State and to the Nation. Adolescence needs

guidance in sex problems. Now it is sex asserts its mastery and works its havoc not only for the time being, the living present, but lays down the etiological factors that in later years are shown in problems of personal mental health including the organic diseases and extraordinarily shown in the neuroses which figure so conspicuously in domestic, economic and social life.

Adolescence is a new birth, for the higher and more completely human traits are now born. The qualities of body and soul are far newer. Unfortunately many of our psychiatric problems indicate that some youths linger long in childish stage, and in spite of chronological years they are in their behavior patterns, childish and beset with turmoils in social adjustments and economic independence. Here is where understanding of mental mechanisms enables the kindly disposed physician or teacher to unravel many of the dilemmas of youth. This stage of life marks an era—a school of its own, that is to be reflected in the years of maturity and perhaps even unto the years of three score and ten. As adolescence asserts its biological prerogative, we note that while most mental problems of this age come within the group known as the neuroses, yet, this is the period when the major psychoses become manifest; a group of disorders called the biogenic psychoses. They are abnormal behavior reactions to experience which should normally build up personality; they have no other cause except hereditary trends, than the patient's failure to master life. There are two main trends in these experience produced reactions: 1. the shizoid group, clinically known as schizophrenia, more commonly known as dementia praecox and in my early days in psychiatry (over forty years ago) known as adolescent insanity. There is noticed a tendency to disintegrate the personality, with secondary delusional and hallucinatory developments. The formidable clinical problems all show maladaptations to the varied demands of human environment. Clinically the group presents very varied behavior reactions because, as Campbell says, "It is intelligible that such a group of individuals should present many varieties, that it should include the impulsive, the egoistic, the pretentious, the idealistic, fantastic, the lazy, the sensitive and reticent, because of the variations in individual endowment. The schizophrenic fails to react to his environment

and this failure is essentially one of development and takes on its clinical picture according to the stage of growth and development at which it occurs. There may be a biological meaning that contributes to the imbalance which the individual experiences in adjusting "the emotional or sentimental basis of his personality in relation to the wider spheres of activity which now open before him." Adolescence is the period in life when the individual faces reality. A failure of adaptation to environment, including circumstance, is compensated for in the mental defense, flights from reality—built up by the delusions and hallucinations, which characterizes his own little world. These compensating processes develop in the individual's flight from reality, until a state of equilibrium is established between the personality and the environment; there the patient will remain until old age and death overtake him unless he passes on because of some intercurrent disease. The great number of custodial patients in our State hospitals represent the residues of the balanced quandaries of the mental mechanisms of schizophrenia.

2. The next of the biogenic group having its roots in the period of adolescence, while not so compact as the schizoid, has greater variation, marked by periods of excitement, retardation and depression with prolonged and remittent periods of apparent average normal attitudes and behavior reactions. The morbidity is in the emotional expression rather than change in personality or intellect. This group is known as the manic-depressive psychosis. It is especially liable to being first manifest during periods of biological stress. In females at puberty, child bearing—child nursing—climacteric and involutional periods. In males it is especially liable to first appear during adolescence. Let us keep in mind that adolescence, biologically speaking, is that period from 14 to 25 years of age. Manic-depressive psychosis arises from no apparent cause. Its origin is utterly unknown except for its strong hereditary potentials. One sees it in persons of cyclothymic, emotionally unstable individuals. On the other hand "the time tried and fire tested" type of personality, whose life is steady, purposeful and successful develops the harrowing experiences of this mental disorder. The three phases, manic, depressive and mixed, are clin-

ically well known to you all. Such cases are essentially hospital cases from the beginning. And yet, the depressed patient is, alas! politely designated as nervous and treated as such, but when the patient jumps from the window of a hotel or office building, which seems to be an everyday current event, then it is politely said they had been worrying over their health, or business affairs. Or it may be a wholesale murder and suicide, as when recently a mother took the lives of seven children and herself. Yet, the everyday life of the complacent public goes on. Mental hygiene is not thought of as a possible preventive measure which if timely applied may have prevented such social disasters.

I have said enough to present the scope and mission of mental hygiene. Perhaps, the future of mental disorders will show more creative interest on the part of the medical profession and the public. Just as in the final acceptance of the importance of prevention and treatment of tuberculosis; of the wisdom and value of public health work in general, I am sure that the future will give mental hygiene its rightful place in preventive medicine. Especially in the need of understanding of child life and its guidance and the correction of defects in nervous and emotional control is of equal importance as in giving aid to crippled children. Yes, of paramount importance in any public health program.

Illinois is fortunate in its Public Health Department in having as its director a vigorous campaigner in showing how deficient our prosperous State is in the prevention of infectious diseases and the need of proper legislation to regulate these deficiencies. We believe the Department of Public Welfare is to be as vigilant in its public service propaganda on behalf of the problems of mental hygiene. Such problems in juvenile delinquency, with or without mental deficiency; of parole in juvenile and adult offenders and in advocacy of better public school facilities for the under age child. The public school nurse needs training in social psychiatric service, so that attention may be given to environmental conditions which, as Thom says, are frequently pathological and not the child itself. Illinois, alas! is behind in its mental hygiene activities. Dr. Haven Emerson, professor of Public Health administration, Columbia University Medical Department, said before the In-

ternational Congress on Mental Hygiene, mental health may be hoped for through preventive measures, directed toward wholesome homes, misunderstood wayward children and too heavy hand of discipline. Only about one-tenth of retarded school children owe their difficulties to such causes as heredity, mental disease or epilepsy. Their problems are to be solved by betterment of social, emotional and material surroundings and in particular of the parental conduct of the child's life prior to school age, may result in as great benefits as we see among babies from the almost universal use in our cities, of safe water and pasteurized milk. The Illinois State Medical Society would be doing a great public service if it would, as vigorously espouse the cause of mental hygiene at its annual meetings, as it has been considerate of other clinical problems of child life. By so doing, the medical profession, especially the younger practitioners, will incorporate in their practical daily life a better understanding of mental disorders. Through this understanding, in the words of White, "Society necessarily come to the realization that mental disease is only an exaggerated form of maladaptation, which is only another way of saying by the use of a sociological term, unhappiness. People will realize that the mental mechanisms involved are the same and that all the various forms of mental disorder, social inefficiency and personal unhappiness must become the subjects, not of criticism and resentment, but of scientific study with a view of their correction or improvement; that they are worthy of such study as are the diseases of the body, and, as a matter of fact, from the point of view, the most valuable of man's possessions—his mind—they are more worthy and more important.

DISCUSSION

Dr. George Hall, Chicago: I was very much interested in Dr. Norbury's paper, and it was extremely well presented. These are facts as they exist, and show the average experience of the psychiatrist. I was at a meeting in Washington a week or so ago of the International Association for Mental Hygiene, and it was the largest meeting I have attended outside of the American Medical Association; there were 3,000 people interested in the meeting, and about sixty-two countries represented. That interest arose from one man becoming insane, and as Dr. Norbury mentioned, that man was Mr. Beers, who, after he returned to normalcy took up the study of mental hygiene. His family thought he was still insane and suggested he should remain longer in the institution. He finally

obtained the confidence of some of his confreres at Yale, and as a result of his efforts Yale has established a chair of mental hygiene, which will no doubt bring closer to us every day the interests of this particular branch of medicine.

Dr. Frank P. Norbury, Jacksonville (closing): Mental hygiene received wonderful impetus during the world war and largely through the constructive efforts of the National Committee for Mental Hygiene; notably in the selective grading of soldiers and the creation of the Neuro-psychiatric Division of the Medical Department of the War Service. The War Department was not inclined to take hold of this selective service. The National Committee financed four units and sent them to the border where the army was mobilizing. Out of this grew the selective service with which you all are familiar. I was the Acting Director of the National Committee during the combat period of the war and this gave me the opportunity to see and to prove the value of mental hygiene when applied to the group and to the individual. It has creative values in the economic and industrial problems of today as well as the general social welfare of the public as a whole.

ADMINISTRATIVE CONTROL AND EARLY DIAGNOSIS OF TUBERCULOSIS*

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I have spent a number of years in general public health work in connection with both municipal and state departments and, for the better part of a quarter of a century have been engaged in tuberculosis work; but, in spite of that experience, or possibly on account of it, I find that the subject of "Administrative Control of Tuberculosis," assigned me by your chairman, is an exceedingly hard nut to crack. The difficulties lie largely in the peculiar character of the disease itself and its radical differences from all of the other infectious or contagious diseases with which the health authorities are required to deal. I believe that, on account of these differences, it may be said with a considerable degree of positiveness that, so long as we attempt to control tuberculosis with the same methods which we employ in the acute, contagious diseases—smallpox, diphtheria, scarlet fever, typhoid fever—we shall continue to fail in administrative control.

It is axiomatic that, in the control of any

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communicable disease, the first steps must be the unearthing or discovery of existing cases and the reporting of these cases to the public health authorities. These steps are quite as essential in tuberculosis as in the acute contagious diseases; but the performance is far more difficult. In my opinion, it can never be brought about by drastic legislation, mandatory procedure, quarantine, police regulation, forcible isolation or compulsory hospitalization. It can be attained only through a slow and persistent process of education, in which we have already made a fairly creditable beginning; by a spirit of cooperation on the part of physicians and an attitude of patient tolerance and helpfulness on the part of health authorities.

The inherent difficulties which confront us in efficient administrative control may be considered briefly as follows:

Most of the acute contagious diseases with which the health officer deals have a relatively brief period of incubation and are distinctly self-limited. Such diseases, for the most part, are accompanied by more or less acute illness which bring them to the attention of the physician and they are marked by rather definite diagnostic signs. The appearance of several cases in a community results, through intelligent search, in the discovery of the source of contagion. It is hardly conceivable that an individual would have a moderate amount of smallpox throughout his life. One can hardly imagine scarlet fever with an incubation period of two to four years or a convalescence of five to ten years. In such diseases, there is a definite beginning, a definite end and a period of illness in which more or less unmistakable signs are apparent. If the disease is not smallpox, it is probably chickenpox, impetigo, secondary syphilis or some other condition in which the health officer is equally interested.

In tuberculosis, on the other hand, the exposure or infection may have antedated the incidence of disease by ten or fifteen years. Perhaps from 70 to 90 per cent. of all healthy persons have some trace of the disease as may be demonstrated by rather simple tests. Obviously this large proportion of our population cannot be subjected to any form of control. Clinical tuberculosis, in its early stages, does not manifest definite signs. Its one conclusive test—the presence of tubercle bacilli in the sputum—is rarely encountered until a more or less advanced stage of

the disease. The diseases which simulate tuberculosis—focal infection, thyroid disease, neurasthenia, gastro-intestinal disease—are not conditions which, in the present stage of development, are of importance to the health officer. In a disease in which a large proportion of all people are infected and in which the transition from infection to disease, if it ever occurs at all, is very gradual and insidious; in which the one pathognomonic sign rarely appears until advanced disease, the determination of just when tuberculosis becomes a reportable disease is exceedingly difficult. The difficulty is obviously increased if many physicians, as many of them frankly admit, are not interested in tuberculosis from a professional standpoint. To detect as evasive a condition as early tuberculosis, one must be distinctly tuberculosis minded.

Another impediment to the general reporting of tuberculosis is the lack of standardization in the methods and procedures of local health departments. Unfortunately, many health officers still place tuberculosis in the same category with the acute contagious diseases and attempt to employ the same methods in dealing with it. The meddlesome interference of health officers in early tuberculosis, the calls of incompetent health inspectors or of tactless health department nurses with implied threats of police power, may defeat all useful ends and may cause conscientious physicians to be reluctant about reporting cases.

I appreciate that, so far, my remarks are not constructive and not helpful. I admit a certain degree of pessimism as to when or how we shall ever have complete reporting of tuberculous disease; as to when or how the early recognition of tuberculosis by the physician will be general. I am frankly skeptical as to when we shall have uniform examination of all contacts when, as at the present time, so many advanced cases remain unrecognized. Of course, we must bear in mind that many persons with advanced tuberculosis have never felt ill enough to seek the advice of the physician.

That we are failing in the first steps of administrative control, must be apparent to anyone who has given even passing thought to the subject. Dr. McShane tells me that the reports of tuberculosis are less satisfactory than in any of the other reportable diseases with which he has

to deal. A study of the mortality and morbidity figures of the State Department of Health tells us this with considerably more emphasis than Dr. McShane is apparently disposed to employ.

It is generally accepted that, for every death from tuberculosis in a community, there are ten living persons with clinical tuberculosis and there is no valid reason why this does not apply to every county and every city in Illinois. The proportion is confirmed by the experience in Rockford and in Joliet. In Rockford, in 1929, there were 20 deaths from tuberculosis and 202 living cases were reported. In Joliet, for the same year, there were 8 deaths and 104 cases. In view of the amount of intelligent tuberculosis work done in these cities, it is very probable that the actual incidence of the disease is less in these two cities than in most Illinois communities.

On the other hand, in Clinton County, there were 9 deaths and 6 cases reported; in Putnam County there were 6 deaths and only 4 living cases. In other words, in these counties, 150 per cent. of tuberculous patients die of the disease. In Calhoun County, Clay County, Gallatin County, Jasper County, Jo Daviess County, Stephenson County and Wabash County, all of the persons with tuberculosis, or more than all the patients, died of the disease. You will note that this list includes both northern and southern Illinois counties. The failure is in no sense geographical.

Among the counties and cities in which the number of deaths is almost equal to the number of reported cases, we find Alexander County, Brown County, Crawford County, Fayette County, Hamilton County, Jackson County, Jefferson County, Johnson County, the cities of LaSalle and Streator, Lawrence County, McHenry County, the city of Alton, Marion County and the city of Centralia, Mason County, Massac County, Perry County, Pope County, Pulaski County, the city of Danville, Wayne County, White County, Williamson County and Woodford County.

At the present time, the reporting of three living cases to one death may be regarded as a good showing in Illinois; about one-third of the accepted standard which Rockford and Joliet have obtained. Neither Cook County nor the city of Chicago has attained this record; but it has

been attained in Berwyn, Blue Island, Cicero and Oak Park in Cook County.

It is interesting to note that, among those counties and cities presenting the more creditable showings are those in which both the public and the medical profession have become more or less tuberculosis minded on account of continuous educational work and the operation of clinics, dispensaries and sanatoria which have received the cooperation of the doctor. Among these are Champaign and Urbana with sanatorium and dispensary; Christian County with regular clinical service; Bureau County with clinical service; Aurora with its sanatorium; Ottawa with two sanatoria; McDonough County with its sanatorium; Bloomington and McLean County with its dispensary and sanatorium; Ogle County with its clinical service; Moline with its dispensary; Springfield with its dispensary and sanatoria; Whiteside County with its clinical service; Joliet and Rockford with their progressive tuberculosis work.

The analysis of these mortality and morbidity figures has anticipated, in large measure, the constructive remarks that I have proposed to make. I am not a constitutional lawyer and I do not presume to say how far the State Department of Health or the local health departments can go in carrying out my suggestions. Perhaps a large part of the program will have to be left to the county medical societies and to the extra-governmental agencies such as the State and local tuberculosis associations. Probably it would be unwise and undesirable for the State or local governments to go further along lines which may best be followed by the voluntary, cooperative action of doctors themselves. Perhaps the governmental agencies can serve best by sympathetic, tolerant and stimulating cooperating rather than by stringent rule and mandatory order. I believe that this is the policy which the state health department is now pursuing.

It appears to me that any material progress in the control of tuberculosis requires the continued education of the public to seek medical examination on the first evidence of symptoms suggestive of illness or, better still, to seek periodical examination.

Second, the stimulation of interest on the part of physicians in the diagnosis of tuberculosis in its early stages and extending the means of

clinical study especially in those diagnostic procedures which have been developed within the past decade or two and which have all but revolutionized our point of view.

Third, education of the doctor as to the absolute necessity of reporting tuberculous cases in the control of the disease and of reporting suspected cases if the doctor is not disposed to pursue his studies to a definite decision as to diagnosis.

Fourth, the examination and repeated examination of all members of families or contacts with cases of tuberculosis.

Fifth, a clearer conception of the value and limitations of sputum examination, and the more general employment of public and private laboratories. I am impressed that the present apparent apathy of physicians in the employment of sputum examination is one of the distinct barriers in our progress toward tuberculosis control. It is significant that, in our own sanatorium, in a group of 100 cases of more or less advanced tuberculosis, sputum examination had been made in less than half the cases before admission to the sanatorium. A long step in diagnosis will be attained if we can get over to the doctors of the State that, while one or two negative sputums are without significance, scores of open cases will be brought to light and conclusively proven if from ten to thirty sputum specimens are examined in every doubtful or suspected case.

Whether the health department may properly require the submission of ten to thirty sputum specimens before a doubtful or suspected case of tuberculosis is declared non-tuberculous; whether the department can require the examination of all contacts with known or open cases of tuberculosis or, on the failure of physicians to meet such requirements, can properly furnish the means of carrying them out, I very gravely doubt. Certainly there should be some means—and I speak as a physician and not as a health officer—of requiring the reporting of frank and obvious terminal tuberculosis before death occurs and it seems to me that it should be possible, without grave danger of State medicine or too much invasion of the private right to be ill, to require examination or, at least, the reporting of contacts with these terminal cases.

For the most part, however, tuberculosis control must remain that of serving of a reasonably

educated public and of an enlightened and public spirited medical profession, and the function of the health department must remain largely educational.

While it is true that tuberculosis mortality has decreased 65 per cent.; it is likewise true that the vast majority of the people have not yet been reached by the popular educational campaign already conducted. Ninety per cent. of the patients who present themselves at sanatoria and dispensaries have not yet absorbed the first principles of what to do to obtain early diagnosis or avoid advanced disease, and yet it appears that the popular educational campaign on first principles has generally more or less abated. It has lost its novelty; but it has not lost its tremendous importance. The present popular campaign for child welfare, excellent though it is, will never control the tuberculosis problem so long as thousands of open cases of tuberculosis remain unrecognized. Our ideas on tuberculosis as purely a child problem are rapidly changing.

Aside from the more general employment of sputum examination, our physicians must be impressed with the value and also of the decided limitations of the x-ray in diagnosis and must be induced, in tuberculosis, at least, to come back from the era of mechanical medicine to increased skill in the fundamentals of personal diagnosis and the interpretation of the case history. This is the problem of the doctors themselves and not of the health departments.

Syphilis has been described as the great masquerader in medicine and I am impressed that tuberculosis stands close second in the manner in which it may simulate many phases of human illness and the manner in which it may coexist with other diseases and may alter their course. This fact should be impressed upon physicians especially in dealing with conditions giving the picture of so-called focal infection—gall bladder disease, chronic appendicitis, infected tonsils, thyroid disease, pelvic diseases of women—and should be given serious thought before submitting the patient to the shock of operation and the irritation of general anesthesia. This again is the doctor's problem.

I trust that I shall not be regarded as unprogressive or reactionary when I suggest that the straight and direct road to tuberculosis control lies in going back to the principles which acti-

vated a group of distinguished physicians a quarter of a century ago when they created the National Tuberculosis Association and from which, in recent years, we have more or less departed. These principles consist in a campaign of education of the people for the purpose of bringing them to thorough examination; the education of the doctor so that he may intelligently meet his obligation when the public seek his aid; the location of every existing case of tuberculosis and the knowledge of his existence by public health authorities; the thorough examination and continued medical observation of contacts. In the continuation of this program the willing cooperation and the sincere interest of the doctor is absolutely indispensable. This interest must be stimulated and encouraged by the health officer who should be in position to intelligently guide or assist in the education of both layman and physician.

DISCUSSION

Dr. A. C. Kleutgen, Chicago: It seems rather presumptuous for me to discuss Dr. Palmer's so well prepared paper. Why! The doctor rattled off more counties than I had any idea existed in Illinois.

I want to say too, that from a letter I received from Dr. Palmer, regarding his paper, I thought he was going to be very reactionary; but he hasn't been so reactionary. In fact, I rather think that Palmer feels very much like all of us do concerning the control of tuberculosis.

The two weak spots I could see in Dr. Palmer's complaint were: First, that there has not been enough education directed toward the physician. It seems rather to have been all directed to the public, and that it has been taken for granted that the physicians know all about what should be done and what should not be done in the conduct and control of tuberculosis. As a matter of fact, it looks to me as though the physician was the one who needed educating.

I have had very little trouble with the Health Department of either City or State in the control of my tuberculosis cases and I have had a fairly good share of these cases during the last twenty-five years. I report them all and before the health nurse gets there I instruct the patient and those interested in the care of the patient, just how the room should be arranged, how the sputum should be cared for, how the children should be removed from the house, etc.

As a consequence, I find that when the health officer comes to my case there has been established by his or her visit a feeling of cooperation and endorsement. He has made things a little easier for me by putting his O. K. on what I have done, by commending the conduct of the case and by endorsing my advice.

Now, I feel that when Dr. Palmer says that from 70 to 90 per cent. of the public, especially in a city like Chicago and perhaps a city as large as Joliet, are

infected with tuberculosis, the problem is a very serious one and can't be coped with by any half-way measures.

The purpose of the isolation of a case of tuberculosis is not at all in my opinion, parallel to that of scarlet fever, measles, or diphtheria. Tuberculosis cases are isolated only to keep the contact child away. Here we haven't anything that resembles the acute exanthemata. The case is isolated only to prevent as much as possible the infection of those little chaps who perhaps haven't already been infected.

The regulation of tuberculosis might undoubtedly vary with different communities. I can't see why some of the smaller places down state, for instance, if the physicians are properly educated, should present at all the same problem as we have in Chicago. In the smaller places you have people very much of the same race; in other words, not such a mixture as we have in Chicago. You have something there that we haven't in Chicago. Having people of the same race there is a less variable immunity to deal with. We have such a mixture in Chicago. I once heard it called "the melting pot of susceptibles." There we have the Negro problem with a tuberculosis and mortality rate of three, four or five times that of the whites. We have the Mexican problem, which is rapidly growing, and which also gives us a very high mortality and tuberculosis rate. For these reasons the regulations applied successfully to smaller places would not, in my opinion, apply to Chicago. What I mean to say is, while you might be able to ease up on the control regulations as applied to smaller communities, having educated the doctors, in a city like Chicago and from what I have observed passing through Joliet, like Joliet the same regulations would not apply because first, of the various races found there, especially Negroes and Mexicans and secondly, because of the class of physicians who administer to the Negro and Mexican people. It seems to me that in a city like Chicago, and that's about all I can talk of because I haven't had any experience with places other than Chicago, the enforcement of regulations for the control of tuberculosis has got to be fairly mandatory or else it will not get anywhere.

The disease, if we take again the figures 70 to 90 per cent. of the people of our cities are infected with tuberculosis as correct, is highly communicable and we know it to be transmissible by contact, at least that is our impression at the present time and I don't believe it will be changed. Therefore, we have got to do everything in our power to break up that contact. Whether the method will be a matter of education or a matter of education combined with persuasion, either coercive or mandatory, as I have said, is a question. The program for the prevention of tuberculosis, must, therefore, in my opinion, specify an enforcing regulation.

Dr. W. H. Smith, Benton: I live in Southern Illinois, about as far from Chicago as a man can live and be in the State. I live in Franklin county, that county that hoists more coal than any county in the world, and it is the melting-pot of the world. We have any nationality that they can bring forward

from Chicago. Surveys have been made, and in my county we have reported in each of those surveys made by the Tuberculosis Association more than 300 active cases, open cases, of tuberculosis.

You talk about control; you talk about educating the physicians. The physicians down there find these cases. The counties are all bankrupt. Under the Glackin law, we can't make a move. We tried that, but we are taxed to the limit of the laws of the State. We can't make a move. You talk about isolating the case. They live in little gun-barrel houses, eight or ten in each home. How are you going to isolate a patient from the contacts? It is impossible. What we want in Southern Illinois is a State maintained tuberculosis sanitarium. That is what we have been crying for. The State has a place to take care of epileptics, criminal insane, deaf, dumb, blind and feeble-minded. We have fish and game preserves. We have rifle practice ranges. It isn't anything for our legislature to appropriate \$600,000 for rifle practice ranges here and there, and the last general assembly undertook to buy ten thousand acres of land for play grounds in every county in the State. And yet no man in the legislature makes a move to give us a sanitarium in Southern Illinois. In Northern Illinois, under the Glackin law, I understand there are approximately three dozen counties that have county tuberculosis sanitoriums but we can't have them down there. We are broke. We can't isolate our patients. We are asking the State of Illinois to give Southern Illinois a State maintained tuberculosis sanitarium.

Dr. E. R. Talbot, Joliet: I want to thank Dr. Palmer for his kind remarks about Joliet but I wanted also to bring out two points particularly in his paper. I think I have been tuberculosis minded ever since the days I was with Sachs. I think I have had a pretty wide experience with tuberculosis, and this has to do with the paper before this when I state that every single patient with a cough should have a sputum examination. I imagine if Dr. Andy Hall were here he would tell you that I send more sputum to Springfield than any other fellow in the State, and simply because I feel I need a sputum examination in addition to my other physical findings. I have in mind the previous paper. I have under observation right now a 200-pound school teacher who has a positive sputum. She has been teaching school, I imagine, at least a year with a positive sputum. How many youngsters she has infected previous to the discovery of this positive sputum, I don't know. Most of you who have had experience with tuberculosis know it is not easy to get physical findings in a 200-pound chest. Even in active tuberculosis. This girl has no other symptoms, simply a slight cough and a positive sputum. So I think, if we don't do anything more than get over the idea that the physicians should use their own laboratory or the State laboratory and examine the sputum of every single cough, they would do a great deal in the control of tuberculosis. That might be a thing that would give the health officer something to work on eventually, an open case as against a closed case so-called.

There is another thing Dr. Palmer mentioned, the

x-ray. I rather want to discourage a little the idea of depending too much on the x-ray. I think the value of the x-ray is important in proportion to a man's ability to interpret the x-ray.

I see very often cases coming to the office in which they state, "I cough persistently. I went to a doctor to be examined for tuberculosis. He didn't even examine my chest. He said to go to the hospital and have an x-ray picture taken, and the x-ray picture came back negative." Still there is a cough. Sputum showed positive and the case is perhaps a step further in the tuberculosis than it would have been if the doctor had not placed too much reliance on the x-ray.

I think the x-ray men are giving the general practitioners the idea that x-ray is the only early diagnostic sign, and I want to take an exception to that. I feel that the sputum, particularly from a contagious standpoint, is so much more important and, if they would only use the sputum more and perhaps the x-ray less, they would be better off, although I don't want to discourage the use of the x-ray, but rather to encourage the taking of the history, the physical examination and the sputum (3 or 4 specimens) before placing too much reliance on the x-ray.

Dr. I. D. Rawlings, Chicago: I was very much interested in Dr. Palmer's paper. We haven't always agreed on the question of how much control should be had over cases of tuberculosis. I notice that he gave the communities in the vicinity of Chicago a better bill of health on the reporting of tuberculosis, based on the number of deaths, than Chicago has.

Personally I have no accurate knowledge as to how well tuberculosis is reported in Chicago. However, recently a survey was made in connection with a mobility survey that is being carried on over the State. We were asked in Chicago to make a survey of at least one per cent. of our population, involving approximately 33,000 people. We found a certain number of communicable diseases, such as diphtheria, tuberculosis, scarlet fever, etc., among those individuals when they were interviewed. The names and addresses of these people with contagious diseases were taken. Then the State Department of Public Health sent a representative to the Chicago Health Department to search our files for these particular cases to find out which of them had been reported and the Department was marked in proportion to the number that were found reported. I was very much surprised to find that this State representative was able to go to our files and find all but one case of the 22 cases of tuberculosis among those making a report of having tuberculosis in their home. That experience makes me think that perhaps we are getting tuberculosis well reported in Chicago because during this survey we went into 44 wards in the city, so that it was a good cross section of the city as far as the area was concerned. The one case which we didn't find was taken up with the Veterans' Hospital. We finally got track of that case and found it had been reported from another address where patient had lived before moving to the address visited. So that there

was 100 per cent. of these 23 cases reported when the final results came in.

I don't regard tuberculosis as an acute communicable disease. We don't place a placard on the front and rear door in the case of tuberculosis. Of course, if they get obstreperous and tell us to go to the hot place, when we call for specimens of sputum to see if the case is active, we do then put up a sign to make them give us material for a test that experience has shown is necessary to get the information we need.

Dr. D. D. Monroe, Edwardsville: I appreciated Dr. Palmer's paper. He mentioned all the counties in the State of Illinois except Madison. He mentioned Alton but he didn't say anything about Madison County. I will have you know that it is second or third in population in the State of Illinois. Reporting of cases of tuberculosis is, I find, made through the supervisor of the township. Now the supervisor doesn't know always what to do with the Report of Communicable Disease card and I think that is one of the reasons why the state health department is not getting a complete report, at least from my county. As an illustration:

April 15, 1930, I received a letter from Dr. McShane in which he said that since last fall he has received only three reports of cases of tuberculosis diagnosed at our tuberculosis sanitarium. Clinics are held weekly; many admissions for treatment have been made. Many times this number have been reported to the supervisor. We have no county health department as such. Each supervisor is a health officer in himself.

I just came from Memphis from the National Tuberculosis Association, where we were told that we should depend upon the x-ray and upon the Von Pirquet test as a method of diagnosis of childhood tuberculosis. Now, gentlemen, I am going to leave it to you who is going to say which is right. Even the tuberculosis authorities are not agreed. And if they are not agreed, you can't blame the average physician for at least not growing wildly enthusiastic over some method of diagnosis, because he simply is not going to follow these blind leads. We are not going to get anywhere as long as we fail to agree on some method.

Those men who are doing a vast amount of x-ray work tell us it is the only method. Those who depend upon the laboratory tell us the von Pirquet test is the best method; we all know we can make mistakes with either one of those methods. If there has been a complete physical examination which will unerringly point out tuberculosis in a child's chest, I haven't heard of it and I would like to see the man who has heard of it because that would be a most valuable thing. We all have fingers; we all have ears; and we would be glad to use them if somebody will tell us what are the unerring signs of tuberculosis in the chest of a child.

It goes back to something that Kennon Dunham once said. He said, "If there are contacts, it should be your job to prove the child is *not* tuberculous. If we treat our patients in that way I think we could

come nearly at least giving ourselves and the patient the benefit of the doubt.

As to the isolation of the patients. One of the doctors here, Dr. Rawlings, said he does not think it is a question of isolation as in accurately infectious disease, and that's quite true. If we depend upon the sputum examination alone to tell us when to release from isolation we shall never positively know. It takes hundreds of examinations sometimes, and often a centrifuged specimen before knowing whether your tuberculosis patient is safe to be let out or still should be kept in isolation. It reduces itself to this, that we must carry on a program of personal hygiene with every patient who has had tuberculosis. It is said that 70 to 90 per cent. of the children are already infected with tuberculosis; then out of ten children who present themselves before you, seven of those are already tuberculous. So why talk about finding the germs there. It is there. It is a question then of teaching the people how to take care of themselves, and that's the job of the sanitarium, where you have sanatoria. It is the job of every family physician and it is something that as family physicians we can't afford to neglect, and I find the physicians of Madison County most willing and anxious to do that sort of thing. If the term is permissible, they are becoming more tuberculosis minded. There are a hundred men down there. They are solidly behind our county sanitarium. We wouldn't have it were it not for those men. Our county medical society and our county tuberculosis association are one and the same. The doctors in our county are wide-awake to tuberculosis. We are endeavoring to carry on a very definite program of education. We feel that we can not put into the sanitarium all people with active tuberculosis in the State of Illinois. That would be financially impossible. Even though the State may build a sanitarium as it should do, we couldn't do it then. So we must take our patients to the sanitarium for a period of education, turn them back to the family physician and take in some more and educate them. While we are doing that we are educating the family physician who hasn't hitherto been very much interested in tuberculosis.

Dr. George T. Palmer, Springfield (in closing the discussion): I think that we all realize that the problem of tuberculosis control in a large city like Chicago is very different from that of the smaller community. Dr. Kleutgen manifested surprise that there are so many counties in Illinois. I am inclined to think that my knowledge of the administration of health in a city like Chicago is about equal to his knowledge of Illinois geography. I know very little of how to approach the public health problems of a great municipality.

Dr. Talbot emphasized a point of great importance. If we could get repeated sputum examinations for all persons with colds or with productive cough, I am satisfied that we would unearth scores and scores of open tuberculosis. The more general employment of

sputum examination is essential to better control of tuberculosis.

Dr. Smith doubtless has reason to be pessimistic about the situation in southern Illinois. I heard a paper by Dr. Hall, before the Southern Illinois Medical Society, in which he compared the conditions in southern Illinois with those in northern Illinois. He said that northern Illinois counties were meeting their tuberculosis problem adequately, while in southern Illinois this could not be done on account of financial conditions. As a matter of fact, I know of no community in the State—and in that I would include Joliet or Rockford—in which they are approaching anything like the ideal in meeting the tuberculosis problem.

In spite of its financial situation, southern Illinois can do more than is being done and at no large expenditure of money. The services of the laboratory of the State Department of Public Health are free and more extensive use of this laboratory would help. In my opinion, there is still great need for education and for the stimulation of interest on the part of doctors both in northern and southern Illinois. Unless the doctors of this section of the State become "tuberculosis minded," Dr. Smith will find, that when the State opens its sanatorium in southern Illinois, it will be filled with advanced and terminal consumptives and will fail to do its important educational and curative work.

I believe that Dr. Monroe, in his reference to the x-ray and tuberculin test, is referring chiefly to the diagnosis of childhood tuberculosis. During recent years I have been filled with admiration for those men who have been making accurate and precise diagnoses of childhood tuberculosis. After twenty-five years of experience I find it exceedingly difficult. Dr. Monroe will agree with me that adult tuberculosis and childhood tuberculosis present entirely different pictures. The best means of diagnosis in the child are unquestionably the von Pirquet test and the x-ray. This is especially true because, in dealing with the child, we are deprived of the most important diagnostic factor and that is the case history. Incidentally, we will not attain our best results in the diagnosis of tuberculosis until all physicians are taking their own written case histories.

Dr. McShane says that the figures obtained by the State Department of Public Health are probably more or less inaccurate. We all realize how hopeless it is for the State Department of Public Health to work satisfactorily with several thousand health officers created by law and many of whom do not know that they are health officers. Their reports, when made, are doubtless misleading. There is one interesting feature about the Madison County figures however. I can not explain it; possibly Dr. Monroe can. In the city of Alton there are practically as many deaths as there are reported cases. In the city of Granite City, we find one of the best records in the State of Illinois. It is my own judgment that this is because the doctors of Granite City have become "tuberculosis minded."

EPIDEMIC MENINGITIS*

ARCHIBALD HOYNE, M. D.

CHICAGO

This disease has been known by a variety of names. Such terms as jail fever, black fever, hospital fever, spotted fever, petechial fever, brain fever, malignant fever, spinal fever, cerebrospinal fever, cerebrospinal meningitis, and epidemic meningitis have been applied to it. Among physicians who come into frequent contact with this infection, there seems to be a marked preference for the words "epidemic meningitis," although "meningococcus meningitis" conveys a much more accurate conception of the true nature of the malady.

It is generally acknowledged that epidemic meningitis was first described in Geneva in 1805. In the United States, Massachusetts recognized it during 1806, and since then the disease has been more prevalent in this country than in any other.

In Chicago from 1920 up to 1927 epidemic meningitis constituted a relatively small number of the admissions to the contagious disease department of the Cook County Hospital. But during the past three years ending December 31, 1929, a total of 515 patients were received. In addition, we have had 57 admitted during the first four months of 1930, and at the present date there are ten in the hospital receiving treatment. We have also admitted seventeen to the Municipal Contagious Disease Hospital since January 1, 1930. Of this latter number, ten were males and seven females. The youngest was one and one-half years, and the eldest fifty.

The causative agent for this disease was unknown until Weichselbaum's discovery in 1887, when the organism was compared with the pneumococcus which, however, is larger in size and possesses cultural and staining characteristics that easily differentiate it.

Weichselbaum's diplococcus intracellularis is a small gram negative coccus, occurring in pairs, which is found in the spinal fluid extracellularly early in the disease and later is seen both intra and extracellularly. It is readily demonstrated in centrifuge specimens of spinal fluid when stained with methylene blue.

The organism is a delicate one, and any chill-

*Read before Illinois State Medical Meeting, Section on Public Health & Hygiene, May 21, 1930.

ing of a spinal fluid specimen may make it useless for cultural purposes. For this reason, it is best to obtain the cultures on special medium at the bedside in order to insure a growth. In many respects this diplococcus—the meningococcus of epidemic meningitis—resembles the gonococcus, with which it might be confused if the decision were to be based on appearance alone.

Some one has referred to epidemic meningitis as a disease of infants and soldiers, and on many occasions the allusion has seemed to be most appropriate. Nevertheless, it is no more totally true than if we said a disease of infants and infantry. Yet, it is a fact that whenever an army is mobilized, an outbreak of epidemic meningitis is not unusual, especially among new recruits. However, the occurrence should not be attributed merely to ordinary military habits, but rather to extreme fatigue resulting from new and arduous duties, together with the close contact existing among a large body of men. This explanation has often been presented as a contributing factor to the outbreak and spread of epidemic meningitis in an army encampment. On the other hand, it does not offer anything in the way of suggestion as to why infants should be a special prey for attack. In reality, no such situation has existed over a period of years at the Cook County Contagious Disease Hospital, where most of the Chicago cases of epidemic meningitis are treated.

In Borovsky's¹ series of 190 cases of epidemic meningitis at the Cook County Hospital only 25% of the patients were under five years of age, whereas, 51% were over fourteen years, and none of them were soldiers. Moreover, among 57 patients admitted to the same hospital with this disease during the first four months of 1930, there were only 17.5% under five years of age, but 45% were less than fifteen years. In this group of 57, the youngest was eighteen months and the oldest sixty-two years.

As is customary when epidemic meningitis is prevalent, most of our Cook County cases have occurred during the winter and spring seasons. The warmth of summer has not, however, brought about the decline in cases which might be anticipated. During the first twelve days of May, eight new cases were admitted.

Susceptibility according to sex shows that the

disease greatly predominates among the males, and in the group of 57 referred to, the favoritism was evident to the extent of 73.5%, only 26.5% occurring in females.

The mode of transmission for this infection is frequently extremely perplexing. Cases may be found in isolated places with no history whatsoever of any known exposure. Besides this, instances of secondary cases² in a family are regarded as unusual, though we have witnessed this with increasing frequency at the County Hospital during the past two years. Yet it is because of such facts that some of the older textbooks tell us the disease is not contagious, and even physicians of high standing adhere to the same view in the present day. In this connection it may be mentioned that within the past two years two internes at the Cook County Hospital contracted epidemic meningitis while caring for this class of patients. It must be admitted, nevertheless, that it is not common for a case of epidemic meningitis to be traced directly to an active case of the disease. The usual source of infection seems to be a carrier, and a known carrier of the meningococcus practically never develops the disease. This is, of course, explained by the carrier's own immunity.

The infecting organism gains entrance to the body by way of the nasal passages according to general belief. Whether it then passes through the cribriform plate or enters the lymphatics, going on into the blood stream, has received much discussion. The weight of evidence tends to prove that the latter theory is correct, and if so, it should have some bearing on the mode of treatment. Since the meningococcus does not live for long after leaving the body, inanimate objects seem to play no part in its distribution. Insanitary conditions are regarded as favorable to the development of an epidemic, but whether this actually is an important factor seems to be very doubtful. Crowding because of close contact may unquestionably have an important role in any outbreak, since the opportunities for droplet infections are naturally augmented.

Following an incubative period of from one day to one week, the onset is usually very characteristic. Headache, vomiting and fever come on with suddenness. Stiffness of the neck develops, and delirium may be present almost from the beginning. But in a great many instances,

the mentality is exceptionally good for so severe an illness. The patient frequently responds intelligently to questions, unless suffering from a malignant type of infection when coma or collapse may be present early. Herpes may be seen on the face in many cases, and in some it is also present on the extremities, but petechia are encountered far less often than one lacking experience with this disease might expect.

Generally, the pulse is rapid at the onset, the respiration often slow and irregular, and the temperature may, or may not, be exceptionally high. While the pupils are contracted at first, later they are apt to be dilated. Photophobia is not as prominent a symptom in our experience as most text-books would have us believe. Strabismus, on the other hand, is fairly frequent. The Kernig sign may always be expected, as well as the Brudzinski. The Babinski is usually absent. In infants a bulging fontanelle is present, and a convulsion may be the primary warning. A blood count will show a leucocytosis, and the urine contains albumin and perhaps sugar. Occasionally a sore throat is complained of before any of the symptoms mentioned. If the course of the attack is prolonged, emaciation may be extreme and opisthotonos marked.

Posture of the typical case which has not advanced to the stage of coma is characteristic. The patient lies on one side, not on the back, the legs are drawn up to some extent, and even though the head may be but slightly retracted, the neck is stiff and rigid. An attempt to flex the head on the chest produces marked pain. Swollen joints described as a common symptom have been present in but few of the cases coming under my observation.

Among the common complications are bronchopneumonia, deafness, which when it occurs, is bilateral and may be complete and permanent. Strabismus and emaciation, if the latter may be placed under this heading, are frequent. Less often optic atrophy, panophthalmia, iritis, keratitis, and endocarditis may develop. Chronic hydrocephalus, which may lead to idiocy, is common in prolonged cases. Rarely, hemorrhage into the ventricles may take place.

The list of diseases with which this infection may be confused is, at times, occasion for surprise, and yet is often clearly understandable. Following are some of the examples of errors in

diagnosis which I have witnessed: various forms of meningitis, including tuberculous, streptococcus, pneumococcus, and influenzal; meningismus associated with a gastrointestinal attack, or due to one of the acute infectious diseases, including pneumonia; cerebral syphilis, poliomyelitis, and encephalitis; brain abscess and ulcerative endocarditis; measles, scarlet fever, and smallpox. Other mistakes which have been reported concerned acute rheumatic fever, diphtheria, and typhus fever.

There is but one accurate method of diagnosing epidemic meningitis, and that is by means of puncture and examination of the spinal fluid. In any instance where meningeal symptoms are present, a cloudy fluid should serve as a basis for the administration of antimeningococcus serum until a laboratory examination of the fluid has decisively established that such treatment is not indicated. It must be born in mind, however, that occasionally the fluid appears clear early in the attack. As a rule, the cell count will run into the thousands per cubic millimeter, and about 95% are polymorphonuclears.

While the prognosis cannot be forecast in every case at the onset the outcome can be foreseen in certain types. Fulminating cases with numerous petechia and perhaps hemorrhages, the size of a dollar, into the skin may terminate fatally within twenty-four hours. It is this class of patients which are suggestive of hemorrhagic smallpox. Usually, patients with a high temperature at the beginning seem to respond better to serum therapy than those with little fever. Many cases make a very satisfactory recovery within two to three weeks, while others run on for months developing a marked opisthotonos and a progressive emaciation, eventually lapsing into coma and dying of exhaustion or a bronchopneumonia.

Mortality is not dependent alone upon the promptness with which treatment is instituted, but may vary greatly from year to year, or even month to month according to the virulence of the infecting organism. Furthermore, age must be reckoned with, for the two extremes of life suffer most. Infants under one year seldom survive. The oldest patient in our Cook County series was a man eighty-one who died on the day of admission. Another unusual case was a woman six months pregnant who died six days

after admission on the eleventh day of the disease.

In different epidemics there is a wide range in the mortality figures, extending from 20% to 80%. The following table presents some statistics for patients admitted to the Cook County Hospital from January 1 to April 30, 1930:

TABLE 1			
	Admissions	Recovered	Mortality %
Total	57	25	56
Males	42	17	59
Females	15	8	46.6

For the same series the mortality by age groups is also presented in Table 2.

TABLE 2			
1— 5 years.....	20%	20—30 years.....	83%
5—10 years.....	40%	30—40 years.....	75%
10—20 years.....	33%	Over 40 years.....	100%

Most of those who failed to survive died within seven days of the onset. The average number of days sick when treatment was started proved to be five for those who recovered, and four for those who died. This upholds the opinion that recovery depends quite as much on the degree of severity in a particular case as it does upon early treatment.

Prophylactic measures directed against epidemic meningitis are extremely unreliable. Known carriers should, of course, be avoided. Well ventilated rooms should be chosen for sleeping quarters and outdoor recreations encouraged. In boarding schools where dormitories are provided, the beds should be at least four feet apart and class rooms ought not to be crowded, it being preferable to have an intervening vacant seat between each two pupils. Antiseptic mouth washes may be used, but are probably of doubtful value. A preventive vaccine has been tried, the treatment consisting of injections of 500 to 8,000 million organisms usually given in three doses at weekly intervals. This procedure is seldom adopted, however.

Numerous drugs have been recommended for treatment, but there is probably only one at the present time which is worthy of any consideration. Morphin has received both praise and condemnation. Ordinarily, I believe it should not be used for epidemic meningitis, and yet in certain adult cases with wild delirium it seems to be the only sedative which affords the patient any relief.

Withdrawal of spinal fluid is undoubtedly the procedure which is of paramount importance. This may be accomplished in one of three ways, by lumbar puncture, cisterna puncture, or intraventricular puncture if the patient is sufficiently young to have open fontanelles. Although the cisterna puncture is the least difficult to perform by one possessing the requisite experience, it should not be recklessly adopted by the novice in preference to the lumbar route. When properly undertaken, no anesthetic is necessary, and the patient is far less disturbed than when the needle is inserted in the lower portion of the spine.

The antimeningococcic serum which Flexner introduced about 1907 should be regarded as the specific for epidemic meningitis, although there are some who believe that infants do better with simple drainage of spinal fluid without giving serum. Properly, the amount of serum given intraspinally should always be less in volume than the quantity of spinal fluid withdrawn, since pressure exerted by an excess of fluid bears a distinct relationship to the severity of the symptoms.

While many favor the administration of anti-meningococcic serum every twelve hours or oftener, we have concluded that twenty-four-hour intervals are, as a rule, better, since the patient is then disturbed less frequently, and the serum introduced has a longer period in which to demonstrate its effectiveness. All intraspinal serum should be given by the gravity method, no syringe being used.

There seems to be no doubt whatever that the intravenous³ administration of serum is also of marked value in many cases. This is especially evident in adults suffering from a meningococcic septicemia.

It is impossible to set up any rule governing the amount of serum which any individual case will require. There are, however, certain guides which may be followed. Some of these are the appearance of the fluid, especially its turbidity. Until the spinal fluid looks clear, repeated injections of serum are nearly always indicated. Frequent microscopical examinations of the withdrawn spinal fluid are also needed for the purpose of making cell counts and observing the presence of meningococci and their number. In addition to the spinal fluid examinations, the

clinical course of the disease should be considered and it is often a matter of one's judgment when to discontinue serum. Under the latter circumstances, spinal punctures and drainage may still be the correct course to pursue.

The usual dose of serum intraspinally will vary from 15 c.c. to 30 c.c., whereas from 30 c.c. to 60 c.c. or more may be injected intravenously in one treatment. The effectiveness of intramuscular injections of antimeningococcic serum is doubtful, but if adopted in conjunction with the other methods will do no harm. Autogenous vaccines have also been used as an adjunct in treatment.

Serum reactions consisting of a marked urticaria are not to be unexpected, and when occurring, usually develop in from seven to ten days following the first serum treatment.

The average amount of antimeningococcic serum given to the recovered cases in the Cook County Hospital group this year was 130 c.c. The greatest quantity received by any one patient was 290 c.c., and the smallest amount 55 c.c. In the Municipal Contagious Disease Hospital group of 17 cases the average dose of serum for each patient was 120.2 c.c.

When an epidemic meningitis patient has recovered, it is customary to secure negative cultures from the spinal fluid before release from quarantine. The old practice of requiring negative swabs from the nasopharynx seems to have been abandoned to a considerable extent. The object of culturing the spinal fluid is not because of any fear that the patient may be contagious on this account, but to obtain a fair degree of assurance that the patient will not have a relapse.

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DISCUSSION

Dr. W. H. Smith, Benton: There is one question I would like to ask. You made a statement that the intramuscular use of the serum in conjunction with other methods does no harm. Then, may I infer that unless it is in conjunction with other methods it may do harm? The reason for asking that question is that

a school boy who received the serum intramuscularly is now paralyzed from the hips down. He can't move. I am just wondering if it might be the result of the intramuscular use of the serum.

Dr. McShane remembers the case of the young woman 21 years old who came down from Cleveland, O. When she reached Indianapolis, she became very, very sick, was vomiting, and had headache. She went on down to Du Quoin and into the home of two old German people, just a man and his wife. At three o'clock in the morning she entered that home, and she vomited all over the old lady. The old lady took care of her from three o'clock in the morning until five that afternoon, when she was removed to the hospital. The next morning the doctor diagnosed it as epidemic meningitis.

Now you say, and all the authorities say that it is very unusual for one case to be identified as coming from another, but usually from carriers. But do you know they couldn't get a hospital in St. Louis to receive that patient, nor one in Granite City. Finally the Christian Welfare Hospital of East St. Louis accepted that girl, and two days later she died, on the 12th, I believe, of January; and on that day the old lady came down with this disease, and two days later she was transferred to this same Christian Welfare Hospital in East St. Louis, and four days later she died.

Dr. Archibald Hoyne, Chicago: It is known that there are different types of the meningococcus. However, all of the antimeningococcus serums are classed as polyvalent; but there seems to be no doubt that the strains from which these serums are prepared vary considerably.

Some ten or fifteen years ago, before we knew that there were four different types, we used to have some such experience as this: we would be administering a particular make of serum and perhaps getting very fair results and then abruptly we would notice the patients were not responding well. In our ignorance we believed that we had received some poor serum and so we would stop using that make and buy of a different manufacturer, and frequently as soon as we made the change the patients would do well again. And we might go on with that serum for a time and then see a repetition of the same thing.

The explanation for such an occurrence probably is that even serums produced by any one manufacturer may vary from time to time even in different batches that are turned out. Theoretically, the proper way to determine whether the serum that is being used is the proper serum is to find out whether it agglutinates well. Practically, it has been shown that some of the serums with the highest agglutinative properties do not bring about the best results in the treatment of the patient. Consequently, the only basis for continuing to use a certain serum is the response obtained by it. If the results are not good, the serum of some other producer should be tried.

I think the matter of drainage is a very important factor, but the recovery that is brought about with serum is at times marvelous. Occasionally, the patient's condition clears up almost like magic with two or three

administrations of antimeningitic serum, but we have had some cases that required as much as 400 c.c. or 500 c.c. of the serum intraspinally in order to bring about their recovery.

Dr. Arlington Ailes, LaSalle: Why do you abandon the nose and throat cultures?

Dr. Archibald Hoyne, Chicago: I think that's been done quite generally, in a good many places where cultures used to be required. Some years ago in Chicago when all cases were not obliged to be taken to a hospital, it was customary to send out a health officer and take cultures from all contacts as well as the patient. I used to see a few cases at that time in the homes, and the people would get very nervous, thinking of diphtheria, and the possibility of their being carriers and being quarantined. But I never saw an instance where any positive cultures were obtained under those conditions.

Dr. Ailes: That's just why I asked the question. We have never been able to get positive cultures.

Dr. Hoyne: We seldom get them either. We tried it for a long time at the County Hospital. There is a special glass tube devised to culture high up in the nose and it is claimed with that you can be successful.

Dr. Ailes: We have used that and never got it.

Dr. Hoyne: I think I recall a few instances of success. I don't believe the patient that had serum in the muscles suffered from paralysis as the result of such treatment.

I think no one can make an absolute diagnosis of epidemic meningitis without an examination of the spinal fluid. This is necessary because meningitis may result from any one of a number of different organisms, but epidemic meningitis is caused only by the meningococcus.

PROGNOSIS AND TREATMENT OF BRONCHIAL ASTHMA, WITH SPECIAL REFERENCE TO PEDIATRICS†

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Bronchial asthma is a pediatric problem, for the most part. All of us who have given special attention to the study of asthma and other hypersensitive or allergic diseases have come to realize more and more that bronchial asthma begins usually in infancy or, at least, the seeds of it are implanted at birth in most cases. Therefore, to those who specialize in the care of our young, belongs the privilege and the responsibility of diagnosing and treating these unfortunates early so as to secure the best results.

A brief list and description of the sickness which we class as allergic or hypersensitive:

1. Bronchial asthma—to be discussed shortly.
2. Hay fever, referring to the seasonal affliction due to pollens.

3. Allergic rhinitis, this is also called "hypersensitive rhinitis," "vasomotor rhinitis," "perennial hay fever"; it includes those cases of rhinitis which occur all year round and have definite allergic characteristics.

4. Eczema, especially in children. There can be but little doubt that most, if not all, eczemas in childhood belong to this group. Skepticism was the rule when the skin tests were introduced, but as the years go by more and more pediatricians and dermatologists have found that by testing out these children and eliminating the offending foods they can and are curing these patients.

5. Allergic bronchitis is a rather new term and refers to cases of bronchitis, without asthma, in which there are sudden attacks of dry, unproductive cough. These cases occur in children, usually, and may precede true bronchial asthma. Hence, they are extremely important, especially from a prophylactic standpoint. We may add, also, that these patients usually give an allergic family history, that they usually respond to epinephrin and ephedrin, and skin tests are frequently successful in pointing out the way to a cure.

6. Urticaria or hives occurs frequently in childhood and may be associated with eczema or asthma.

7. Angio-neurotic edema is uncommon in the very young.

8. Alimentary or food allergy is being given a great deal of attention. It refers to those cases of abdominal pain associated with nausea, vomiting and diarrhea which are due to hypersensitiveness to some food. The diagnosis is based on (1) history of heredity, (2) previous attacks, (3) temperature is usually normal, (4) eosinophilia frequently, (5) positive skin tests, (6) relief by removal of offending food. It may be well to point out that children who refuse a certain food may be sensitive to that food.

9. Migraine.

10. Epilepsy.

11. Certain purpuras.

12. Certain bladder disturbances.

*From the Asthma and Hay Fever Clinic, Northwestern University Medical School, Chicago.

†Read at the February, 1930, meeting of the Chicago Pediatric Society.

(These last four probably belong in this group but time will not permit further discussion.)

13. Serum reactions, both immediate and delayed, may also be considered members of the allergic group.

Basis of Allergy. Before we take up bronchial asthma, specifically, let us consider what constitutes the basis or etiology for the entire group. On careful analysis, we find that there are three main factors which bring on these symptoms.

First of all, there is heredity. The leading investigators, men like Cooke and Balyeat, have shown that approximately 60% of all these sicknesses give a history of one or more cases in the other members of the family. It has also been demonstrated that children with both parents allergic become victims almost twice as often as where only one parent is afflicted; and where neither parent is allergic the children are not likely to develop any one of these illnesses at all. Furthermore, the age of onset of symptoms is earlier with greater hereditary influence. Thus Cooke pointed out that 72% of children with bilateral family history showed allergic symptoms before the age of ten; 35% with unilateral family history had symptoms before the age of ten; and only 20% where no family history could be obtained.

It has also been repeatedly shown that the form of allergy in the child may differ from that in the parents—e. g. the child may have eczema and asthma and the mother hay fever, or vice versa.

The second factor in the etiology of allergy is the exciting cause or causes. You are all quite familiar with the numerous substances which can bring on an attack of asthma or one of the other sicknesses of this group. Pollens, animal derivatives, foods, orris root, house dust, certain drugs like aspirin—all of these are well known to you and we will merely emphasize here that patients are frequently—I might say usually—sensitive to more than one of these substances. These materials, then, constitute the trigger which in the presence of the hereditary basis sets off the explosion which is shown as asthma or hay fever or one of the others.

The third factor is not fundamental yet very important. It constitutes the predisposing condition or conditions which in the presence of the hereditary factor and the exciting cause makes

the attacks worse than they would otherwise be. Some of these influences are dampness, change of weather, worry, excitement, nervousness, fumes, overexertion, overeating and broncho-pulmonary infections and inflammations. They alone cannot cause asthma or hay fever, but they are important contributing factors.

Bronchial Asthma—Diagnosis. With these three points in mind let us consider bronchial asthma, especially as it occurs in childhood.

In considering the diagnosis we have little difficulty, although "colds," bronchitis and broncho-pneumonia and pulmonary tuberculosis sometimes are confusing. Broncho-pneumonia, for example, is frequently diagnosed wrongly, I believe, because a child with asthma has a high fever. Adults with bronchial asthma rarely have fever but children, especially infants, frequently have high temperatures. A little epinephrin or ephedrin will usually break up the whole thing, and demonstrate that broncho-pneumonia is not present.

We make our diagnosis of bronchial asthma only after an exhaustive history, examination and tests. The history is usually that of trouble from infancy, consisting of attacks of wheezing and dyspnea and cough or the history of frequent "colds" and "bronchitis." Questioning finds hereditary influence in most cases. And we are frequently aided by the fact that many of these children have or have had eczema or urticaria or hay fever or food idiosyncrasy as well as asthma. The chest examination between attacks may reveal nothing. During spells we find the musical chest of the asthmatic with the difficult and prolonged expiration. Emphysema and chronic bronchitis are the complications which we dread and they may or may not have put in an appearance at the time of examination.

The blood usually shows an eosinophilia (about 5% or more) and the sputum, where obtainable, contains eosinophiles, Curschmann spirals and Charcot-Leyden crystals. The x-ray usually shows more or less evidence of generalized fibrosis beginning at the hila of the lungs and spreading out, fan-like, toward the periphery.

An important point in the diagnosis is that epinephrin rarely fails to relieve an uncomplicated attack of bronchial asthma.

Many pediatricians are using the term "asth-

matic bronchitis" for children who have frequent bronchitis on a supposedly infectious basis. I believe these cases should be thoroughly skin tested and either put in the allergic classification and called bronchial asthma or allergic bronchitis, or should be deemed non-allergic and called infectious bronchitis or some similar term. The term "asthmatic bronchitis" was given by I. Chandler Walker many years ago to the infectious and probable non-allergic group of cases with cough and some dyspnea beginning in adults over the age of 40. Perhaps it would be better to restrict the term "asthmatic bronchitis" to this older group.

Skin Tests. Skin tests have provoked an active and at times acrimonious interest. Between those who see no good at all in these tests and those who depend entirely on them, there is a middle ground which is the correct one, I believe. To those who say that skin tests are useless one can point out many cases where patients have been restored to health by information obtained through this medium. Many say that the tests are tedious and take too long to carry out. We may reply that finding the exciting factor without the skin tests takes much longer in most cases, and is far less successful. For example, one of the staff here at Northwestern suffered for two years from acute gastro-intestinal upsets while she was trying to find the cause. Finally, she skillfully traced her trouble to mustard and then had skin tests done which gave a strong positive test for mustard. Had she had complete skin testing at first she would have been saved two years of suffering and uncertainty.

To those who rely exclusively on the results of skin tests come disappointments for a positive skin test may well represent past history and does not necessarily indicate the cause of the attacks.

All tests should be confirmed by clinical evidence. A child whose eczema and asthma come from eggs should be benefited or relieved by removing eggs from the diet and should be made worse again by letting the child eat eggs. Similarly, a child who gives a positive test for dog hair should be allowed to play with a dog to see if symptoms will develop, then remove the animal and after an interval bring it back again to see if symptoms return. These clinical tests, then, are at least as important as the skin tests.

There is also some disagreement as to how to make skin tests, whether cutaneously or intracutaneously. We use the cutaneous or scratch method first and follow them up by doing intracutaneous tests if the scratch tests are negative. Scratch tests are entirely free from danger and no fatalities have been reported from this method. The other way has not been entirely harmless as you all know.

In certain cases where both techniques have shown nothing we try nasal or ophthalmic tests and we have sometimes had good reactions to pollens, for example, where nothing had shown on the skin. This merely confirms the fact that the skin can be negative yet the patient be sensitive.

Group testing, to my mind is folly. It is difficult enough, frequently, to get positive tests by the ordinary method. If you dilute each material to one-fifth of one-sixth as you do with group testing you will have still less chance of finding reactions. It is a very poor short cut,—in fact no short cut at all.

One further word about testing and that is to emphasize the great importance of thorough testing or not testing at all. Each year has brought new substances which have been shown by different investigators to cause certain cases of asthma. For example, Parlato of Buffalo, N. Y., has just demonstrated that sand flies brought on attacks of asthma and skin tests with some of the material gave positive reactions and desensitization was successful. There are about three hundred or more different materials which can cause an attack and it is absolutely necessary to test with all which come in contact with the patient under consideration. Usually if a patient gives one positive test he will give two or more. Usually, one or two are the important ones and the others may be contributory factors. For example, it is well known that a hay fever patient who is sensitive to ragweed and also sensitive to the orris root contained in her face powder will get much better relief from the ordinary ragweed treatment if the orris root is withdrawn at the same time. Failure to realize this has caused many a disappointment in hay fever treatment.

If only ten or twelve or twenty tests are done and the patients or parents are assured that the skin tests have been completed it seems to me that an injustice has been done. The testing has

been just as incomplete as the old time examination of the tongue and pulse was incomplete. It is unscientific and full of danger. The tests not done may be the vital ones in the patient under consideration. I am firmly convinced that no one should make any skin tests unless he tests for every substance with which the patient comes in contact.

Prophylactic Treatment. The prophylactic treatment of bronchial asthma has come to be a live subject, and one of great importance. Asthma, especially, in children, excites our sympathy and every step possible which can lessen its occurrence should be taken.

First of all, as already stated, heredity is almost certainly a basic factor in the causation of all the allergic conditions. The symptoms of 72% of Cook's allergy patients whose mother and father were also hypersensitive came on before the age of ten; about half that where only one parent was allergic. Surely we are justified, then, in advising that intermarriage between allergic patients be frowned upon.

Secondly, in taking histories let us ask our patients or parents whether there is allergy in the family,—just as we ask about tuberculosis or insanity. And the closer the connection the more liable is the child to asthma or one of the others.

Thirdly, let us consider each child of an allergic parent as a potential asthma victim,—and we can save much suffering and at the very onset of any of the hypersensitive group let us have the child thoroughly examined and thoroughly skin tested. Don't wait for the eczema to develop into asthma as it commonly does. Make the skin tests at once and the asthma can probably be prevented. And don't let a child go on having hay fever year after year. It has been shown repeatedly that 30-40% of all hay fever cases develop bronchial asthma sooner or later. These pollen asthmas may later on change to the year round type,—much worse than the seasonal. The preseasonal treatment of hay fever asthma has given wonderful results especially as regards the prevention of asthma. And let us not forget that frequent colds and coughs in a child may be based on hypersensitiveness and if treated promptly asthma can often be averted.

The fourth measure in the prevention of

asthma is the further safeguarding of the children of allergic parents. Keep the common excitants away from them as much as possible. These children can get along nicely without feather pillows and without dogs or cats or other pets. Horse-back riding should be discouraged. Hair mattresses should be avoided. Some toys like little teddy bears are covered with rabbit hair or furs and may cause trouble. And, lastly, add one new food at a time and watch carefully for any possible idiosyncrasy to that food,—this applies especially to wheat, milk and eggs which cause a large percentage of childhood illnesses.

Active Treatment. The active treatment of bronchial asthma may be divided into specific and non-specific and does not differ much from that carried out in the adult.

Specific Treatment. When we find the exciting cause we remove it, if possible; the feathers, the dog, horse, cat, eggs, etc. The word "remove" needs explanation. It is frequently not sufficient to merely remove the feathers in the patient's bed-room,—usually the feathers all through the house must either be removed or effectively covered. And eliminating eggs from the diet means eliminating eggs and all egg containing foods such as cakes, pastries, mayonnaise, ovaltine, egg noodles, and certain candies and ice creams and meat stuffings.

Desensitization we believe necessary with some of the exciting materials which cannot be entirely avoided or which cannot be avoided for long periods of time. We therefore try to desensitize those patients who are hypersensitive to the common inhalants like pollen, dog hair, cat hair, feathers, house dust, orris root, and the common foods like eggs, milk, and wheat. We have used the subcutaneous method chiefly and in a few cases of food sensitivity the increased feeding method.

House dust extract deserves a few remarks. The exact ingredient in this which gives the positive tests is uncertain. House dust is a mixture and of course varies a little in different homes. We have tested several hundred cases with dust extracts and in about fifty or more cases have made solutions from the dust in the patient's home. About 40% of our asthma cases have shown a positive skin test to the dust extracts and we have found with occasional exceptions that those who give positives to their own

dust also give positives to a mixed or so-called stock dust extract. Clinically, we think our results about as good with stock dust extract as with an autogenous solution and on the whole we have had some very successful results by its use.

In attempting desensitization by the hypodermic method we must look out for reactions. This is especially true in treating pollen hay fever and asthma. The dosage must be gradually increased here and we have found that the usual fifteen dose method of treating hay fever is quite inefficient. We use from 25 to 30 or more injections so that we do not have to increase the dose too quickly, and so that we can also give stronger amounts than most clinicians use,—we think this gives greater protection. If we get a reaction we lower the next dose and then creep up again. With the fifteen injection method you cannot do this and if you keep on increasing the dose after a reaction more reactions and worse ones will almost certainly follow.

Non-Specific Treatment. The non-specific treatment of asthma consists of the use of numerous drugs and different procedures. For the attacks of asthma epinephrin or adrenalin has stood the test of time and is supreme. 2 to 10 minims of 1:1,000 solution will almost certainly stop or at least relieve an attack of true bronchial asthma. Ephedrin comes next to epinephrin. It should be used by mouth only and helps about 50% of cases. It acts more slowly than adrenalin and its effect lasts longer. As you all know many patients cannot tolerate ephedrin.

Morphin should not be used at all because it does not work as well and because it is habit forming.

Vaccine treatment is indicated in certain cases where all tests are negative or where true bronchial asthma has been complicated by secondary infection. We make autogenous vaccines from the sputum, plate out the organisms, grow them separately and skin test with each culture. Then we treat the patient with the one or more varieties which give the best reactions. Our results with this method have been very good in some cases, and disappointing in others.

For about 3 years we have been using ultra-violet light as an accessory method of treatment. We believe it helps as a tonic and it seems to be

especially valuable in the undernourished. We believe that it has no specific value, yet our results have certainly been improved since we adopted its use.

Adequate treatment of infected tonsils, teeth and sinuses is carried out as far as possible and we advise routine nose and throat examinations including sinus x-rays where indicated. However, we do not believe that nasal operations help a great deal in the treatment of bronchial asthma. We try to remove all definite infections, but do not think that straightening septums and removing turbinates are of much aid except locally.

Change of climate is frequently advised and carried out often with great hardships to the family involved and all too often with failure instead of success. The advice to move is very illogical in this day and age and the results will naturally be uncertain. When one realizes that all these cases have an exciting cause, such as dog hair or egg or dust, the method of attack should be to find the cause, if possible, and remove it, if possible. If a patient improves by change of climate he may do so because he has left behind something, e. g. a cat or a dog, which caused his asthma. It would be simpler and just as effective to remove this animal and stay home and not disrupt the family. If a child is sensitive to a food, change of climate certainly will not help him as long as he continues to eat the same kind of food. Let us therefore advise change of climate only after thorough skin testing and subsequent treatment have been ineffective—and if we do that we will have very few patients to whom we will say “go to Arizona or Texas.”

Other medicines are of some service. Potassium iodide, belladonna and apomorphine have proved useful in many cases and are good agents. We have been much disappointed with other drugs like calcium, alone or with thyroid; also with peptone and benzylbenzoate. Stramonium, used widely in asthma cigarettes and powders, helps temporarily but its use over long periods of time may increase the asthma by its local irritating action.

We have tried x-ray treatments to the chest and the spleen with no permanent beneficial results. Lately, we have been using increasing

doses of old tuberculin in some severe cases and believe that a few have improved.

Dust-free rooms can be helpful, especially in pollen-sensitive cases.

It is highly important, also, that the contributing factors should be avoided as far as possible,—things like wet feet, over-exertion, excitement, etc. Attention to these will lessen the number and severity of attacks.

Prognosis. The prognosis of bronchial asthma is undoubtedly more favorable now than it used to be. The old idea that asthma was incurable has been swept away and we can now assert that asthma can be "cured" or improved in the majority of cases.

But there are certain things which make the prognosis less favorable. Many children with asthma are not diagnosed soon enough. They are said to have bronchitis or colds or tuberculosis. In many cases the diagnosis of asthma is made but that is all. Medicines are given and if the attacks are severe adrenalin or morphin is injected. As these attacks go on the main complications of bronchial asthma creep on, emphysema and chronic bronchitis. When these two have occurred the hope of complete cure has vanished for emphysema does not disappear once it has occurred.

The prognosis, then, depends on getting these children early, before emphysema and chronic bronchitis have complicated a simple asthma. Take these children in hand and test and treat them as outlined and the large majority of them will respond most favorably.

Just what is the prognosis in figures? Rackemann of Boston has followed his cases longer than we have and reports 213 cases of asthma of all types and all ages completely relieved for more than two years. This was from a total of 1,074 cases, or about 20% of "cures," using the term "cure" to mean freedom from symptoms for two years or more. He also noted that the younger the patient the better the prognosis and found that 65% of his cases under twelve were either completely relieved or greatly improved.

Other men like Walker, Piness, Vander Veer and Duke have also reported many cases entirely relieved, although all hesitate to use the word "cure."

In our series of cases, both at the clinic and in private practice, about 85% of patients with

true bronchial asthma have been more or less improved. This includes all ages. About one-third of these have had no symptoms at all for a period ranging between six months and eight years. Pollen asthma cases have given the best results, for asthma has been practically eliminated in those cases given pre-seasonal pollen injections.

We, too, have found that our results in children have been much better than those in adults.

SUMMARY

In conclusion, then, the following points stand out:

1. The allergic conception of bronchial asthma is the only sound one and helps us obtain the best results.

2. All of the allergic diseases are based on the three factors of an inherited state, exciting causes, and contributing influences.

3. Thorough history-taking, examinations and skin tests are absolutely essential in each case.

4. The occurrence of asthma can be greatly lessened by advising against intermarriage between allergies; by shielding children of allergies from the common exciting causes; and by examining and skin testing these children at the very onset of any of the hypersensitive diseases.

5. The prognosis of asthma is excellent in most children and is especially so in children who are diagnosed early and completely tested. Children who are not permitted to develop emphysema and chronic bronchitis through repeated attacks of asthma can be either completely or partially relieved of their symptoms in the large majority of cases.

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GENERAL PARESIS: THE MALARIAL TREATMENT

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This man is an automobile merchant, forty-six years of age. His father has senile dementia. He is said to have had "brain fever" at the age of twelve months. At twenty-two years he contracted syphilis from his wife; he divorced her. His chancre was cauterized. No specific treatment was recommended or given. The penile sore became an almost forgotten incident. He remarried at thirty years. Neither wife was ever

pregnant. Born of poor parents, a member of a large family, he received only a very elementary education. By native intelligence, association with educated friends, wide reading and great industry, he overcame his handicaps and became polished, successful in business and club circles. He accumulated a moderate fortune. Two years ago he floated a large business which necessitated very hard work. The business, soundly organized, is still successful.

Eighteen months ago a life insurance company rejected him because of too low blood pressure. It was suggested that he was working too hard. He tired very easily, became nervous and unstable. An attack of acute tonsillitis further reduced his strength. His appetite disappeared. He lost twenty pounds in weight in twelve weeks. His complexion became sallow. He stopped reading the newspapers because they were "filled with lies" about him. He had several "sinking spells," during which his head would fall and he could not be roused for several minutes. These seizures were called "heart attacks" by various medical attendants. Each attack left him weaker. Headaches occurred occasionally.

Dr. Robert Hoffman made a diagnosis of general paresis six months ago. He found pupillary and tendon reflex changes. The Wassermann test of the blood and spinal fluid gave a four plus reaction. There were sixty-two cells in a cubic millimeter of the spinal fluid. The globulin test was positive. The serological findings were:

BLOOD

Wassermann 4+

SPINAL FLUID

Wassermann 4+

Cells —62

Globulin 2+

Glucose —787 mg.

Chlorides 743 mg.

Dr. Hoffman gave the patient several injections of typhoid vaccine and an intensive course of tryparsamide. There was a slight improvement. He was then sent to a sanitarium. Little was done for him there except to feed and confine him. After repeated pleas by his wife a tube of blood from a malaria patient about one hundred miles away was injected into the patient. Our patient did not develop malaria. The sanitarium staff said that probably because of his tryparsamid the patient was resistant to malaria. The chief consultant of the sanitarium was inclined to call the patient's condition manic-de-

pression rather than paresis. At the sanitarium he began to refuse food, going for days without eating. When urged to eat he would reiterate, "I just can't do that; it just won't go down." Losing weight and developing more marked delusions he was brought home last week.

Today (April 1, 1929) you see this thin sallow man of 128 pounds, who sits rather stiffly and impassively. At the suggestion of going to the hospital for treatment he rises and walks about restlessly. "No, I can't do that," he says. "That would not be right. I don't want any of that dirty medicine stuck in my veins. It is ruining my body. No, no, I can't do that." He is well oriented. He refuses to do the speech tests, but shows no speech disturbance. His arithmetic is very good. His pulse is 60 and weak. His blood pressure is 104/74. He has no eruption on the skin. His tongue is coated. His heart, lungs and abdomen show no abnormalities. There is no tremor of the hands, tongue or eyelids. His left pupil is Argyll-Robertson, is smaller than the right and does not react concentrically. Both pupils are regular. There is no external ocular palsy. The other cranial nerves show no changes. The fundi are normal. The arm reflexes are present and symmetrical but weak. The abdominal reflexes are absent on the right. The cremasteric reflex cannot be obtained on the right side. The ankle and knee reflexes are present but are weak. Babinski sign is positive on both sides. Oppenheim's sign is positive on both sides, especially marked on the right. Gordon's sign is positive on the right and negative on the left. The spinal fluid reacts negatively to two antigens in the Wassermann test, has one cell and a faintly positive Nonne. The blood gives a negative Wassermann test but a 3+ Kahn.

One month later (June 1, 1929): The last time that you saw this patient Dr. Schelm of the U. S. Veterans Hospital, No. 105, gave him nine units of blood from a patient with general paresis and active tertian malaria. The patient's delusion made him refuse food. To increase his appetite and possibly overcome his delusion against food, we gave him five units of insulin before each meal. He ate no more than before. The insulin was increased to ten units about one hour before meals. He still refused to eat. Fearing the onset of the malaria in a starving

patient, we gave him 800 c.c. of milk and 800 c.c. of cream, four eggs and 50 grams of butter daily by stomach tube. He also retained on the average 1000 c.c. of five per cent. glucose given in retention enemas daily. Insulin was discontinued.

Four days after the malarial inoculation his temperature rose to 100. The next day he had a chill and his fever rose to 102.6. He then had a chill and a fever of over 104.3 every forty-eight hours until he had had 103 hours over 100° F. and 70 hours over 102° F. Then 10 grams of quinine sulphate in four days stopped the malaria, and it has not recurred. During the malaria he was fed twice daily through the stomach tube. Before the malaria his blood count was: hemoglobin 85 per cent., erythrocytes 5,400,000, and leucocytes 9200. At the termination of the malaria his hemoglobin was 65 per cent., his erythrocytes 4,000,000 and his leucocytes 3800. He became weaker during the malaria. The spleen was never palpable. The heart and lungs did not develop any pathologic findings. He was never delirious but became more violent. He would curse loudly and throw things.

Today is his fourth fever-free day. He ate supper last night without urging. He drank water this morning. He is calm but more alert and interested in his surroundings. Tube feeding has been discontinued. He receives fifteen units of insulin one hour before meals. He is better mentally than at any time since his first symptoms. His objection to the administration of tryparsamid or other arsenical has led us to abstain from all medication except insulin.

One month after termination of malarial treatment (July 1, 1929): Today you see our patient much improved. He weighs 157 pounds. He appears well and feels well. He goes about outside the hospital. A car of modest price is a recent purchase of his. He reads the papers. He plans on going to the bank to establish a trust fund for his family. The serology of his blood and spinal fluid is entirely negative. The pathological reflexes are unchanged. Going to sleep is often difficult for him. His blood pressure is 82/60. He is living a normal life at home. A remission of his paresis has been induced.

Hippocrates and Galenus noted that an epidemic of fever in any asylum was followed by

improvement in the mental status of the patients. The fever producing disease might be typhoid, measles, pneumonia or boils. The literature in the latter half of the last century contained many observations of psychoses benefited as a result of some fever. Wagner-Jauregg reviewed the literature in 1887. He mentioned the desirability of doing what nature accomplished through an acute infectious process. He experimented with relapsing fever, erysipelas and malaria. The latter recommended itself for its reliability as a fever-maker, its easy transmissability and its easy control by quinine. He also produced so-called aseptic fevers with tuberculin and typhoid vaccine. Typhoid vaccine is still employed for this purpose.

Malaria is the most effective agent. Only the tertian strain of plasmodia is used. The tropical malaria is unreliable as a fever producer. It runs a protracted, often malignant course with frequent complications, indefinite fever-free periods followed by relapses and often does not respond well to quinine. Several strains of the tertian plasmodium have been kept continuously cultivated by transfer from patient to patient. The originally wild strains have been altered by this adaptation to therapeutic use. They are no longer transmissible by the mosquito; in other words, they do not undergo the sexual cycle. They do not cause splenomegaly. Ordinarily a patient is allowed to have ten to twelve paroxysms. Marked exhaustion or other complication may necessitate terminating the infections sooner.

Authorities are about evenly divided on the question of giving arsenicals after the malaria. Gerstmann, assistant at the Wagner-Jauregg Clinic, reports that two groups of patients, one treated with malaria and the other treated by malaria followed by arsenicals, did equally well from the standpoints of percentage and maintenance of remission. According to others, arsphenamin or tryparsamid have a heightened efficiency following the malaria.

In the reports from the neurological clinics of Central Europe about sixty-six per cent. of the paretics treated by malaria enjoyed remissions, thirty-six per cent. of the treated cases returned to their work.

The patients seen in private practice are far more favorable subjects for malaria treatment

than are the paresis patients in institutions for the insane. The private cases are usually seen before there is great deterioration. Young patients are the most likely to be benefited by the malaria. The patients with a simple dementia, those with only periodic outbursts and the taboparetics are most likely to secure remissions. Patients with so-called galloping paresis, those highly agitated, and those with long-standing symptoms offer the poorest prognosis.

The presence of aortitis is not a contraindication if the heart is compensated. Insulin and forced feeding may enable even an emaciated patient to take the malaria treatment.

Our best measure of a patient's progress is his approach to a normal mental status. The patients whose serology fails to improve and whose physical signs remain unchanged often enjoy the most marked remissions.

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INFANT MORTALITY IN SOUTHERN ILLINOIS

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The subject of infant mortality has been a very live matter of discussion and the object of extensive investigation for many years. During this time, public health departments of cities and states have vied with each other in presenting progressively lower and lower death rates. They have used this mortality rate as an index of health conditions in their respective districts; and as it would seem, rightly so, for this rate is effected by every factor which would seem to have a bearing upon the general health of the community. Chief among these factors are:

1. The educational status of the people.
2. The financial status of the people.
3. The control of public health matters, having to do with clean food, proper sewage disposal, and control of communicable diseases.
4. And last but not least, the type of medical service prevailing in the community.

In short, most of the factors which determine standing as a prosperous civilized community seem to bear directly upon this mortality rate. Low rates are therefore cause for pardonable pride, while high rates reflect upon each of the factors bearing upon this rate.

During the period from 1915 to date, there has been a steady decline in infant mortality in the entire country. During this period, various surveys of causes of infant deaths have been made. These surveys have been conducted by private agencies, philanthropic foundations, and by the Department of Labor of the Federal government. The factors which seem to bear on the mortality rate have been studied. Much good has been done in clarifying the problem, in spite of the fact that it involves many interlocking factors such as nationality of the parents, housing congestion, employment of the mother and many others. That such matters of study should be the function of the Federal government seems to be unquestioned. On the other hand, the institution of measures to carry out plans of correction by agencies of the government such as is provided by the Sheppard-Towner Maternity Act and the recently pigeonholed Newton bill, is viewed with alarm by the organized medical profession. That the State of Illinois has been able in the past to present a record, at least as good as the average, without the aid referred to, may be a cause for some pride by the medical profession and the State Department of Health in whose hands the responsibility for this matter has, up to the present at least, rested. It would seem, therefore, of the utmost importance to every member of the medical profession to realize this personal responsibility, and to help show that local and state organizations are able to produce results in the steady decline in the infant mortality rates without outside aid. Organized medicine in Illinois has vigorously opposed centralization in maternal and infant welfare work and is responsible for the almost unique position among the States of non-acceptance of Federal aid. This stand will no longer be tenable if our results fall behind those of other equally progressive states.

The Illinois Department of Health, in its analysis of death certificates has found that certain districts in Southern Illinois show mortality rates much higher than the state average. It has found also, that, in the case of certain small communities, birth reports are made in average numbers but that death certificates for infants under one year of age are proportionately very low. This would seem to indicate a high type

of medical service offered, in contrast to other similar communities which seem to be less fortunate in this respect. In all fairness, it must be pointed out that, in the past few years, the economic status of many of our Southern Illinois communities has been greatly lowered, due to agricultural and mining depression. That this has a marked effect upon morbidity and mortality rates must be conceded. Such factors, however, must be counterbalanced by increased effort along lines of improvement by our practicing physicians and local health officers in order to maintain and improve our standing.

As to the cause of these deaths in Southern Illinois, they differ but little from those elsewhere; certain groups of causes are a little higher in one county, while others are more important in another having somewhat different conditions. To present isolated problems would not be possible or advisable at this time being proper matter for solution by county medical societies and local health agencies.

The causes of death in all counties are found to fall into four chief groups and will be very briefly discussed in this order.

1. Deaths within the first few weeks of life.
2. Deaths due to respiratory infections.
3. Deaths due to miscellaneous causes, including syphilis.
4. Deaths due to nutritional and intestinal disorders.

In the first group, that of deaths during the first few weeks of life, are included the very great number of deaths due to prematurity, congenital debility, malformations incompatible with life and those due to birth injury. This somewhat heterogeneous group is responsible for a tremendous loss of life, the ratio being from 50 to 65 per cent. of all the deaths under one year. In this state they account for about 5,000 deaths a year exclusive of stillbirths which, if included, would increase this group to about 10,000 per year. Excepting syphilis, which is the most important preventable factor, than which none gives more gratifying results from treatment the prevention of prematurity is a complicated problem due to our lack of knowledge concerning many of the factors. Certainly the health and well being of the mother are the first matters to improve, which goes back to adequate prenatal care. Caring for the pre-

mature infant consists chiefly in the following: Body temperature must be maintained by supplying artificial heat. An open type of home-made incubator constructed of an open wooden box well padded and having around the sides a row of glass bottles of hot water will maintain the temperature at normal with only a little care. Respiratory infections should be guarded against by as much isolation as possible and the fewest attendants. The infant's energy must be conserved by letting it very much alone. It should not be bathed. The clothing should be so arranged that changes of diaper can be easily and quickly made. The danger of respiratory fatigue from the pressure of the usual abdominal binder may be removed by substituting a few small tabs of adhesive tape to hold the cord dressing in place. The infant should be fed from a bottle, by medicine dropper or by gavage, and not oftener than every four hours. To feed oftener usually brings on more vomiting and to permit the smaller infants to nurse the breast results in weakening the child. Most important of all, clean breast milk should be given without question of where or how it is obtained. Boil the milk if it is taken from another mother.

The congenitally weak infant, although full term, should be cared for as a premature.

We do not know the cause of malformations, and can do little for cases of anomaly of the nervous or circulatory systems. Defects in the gastro-intestinal tract including pyloric stenosis should be carefully studied and if the infant seems unlikely to improve with medical treatment, should be given the benefit of operative measures before athrepsia has occurred.

Injury at birth resulting in death is practically entirely cerebral. Very extensive studies have been made of this subject and it is now well known that tears in the tentorium with hemorrhage and other isolated hemorrhages are found in the examination in the brains of most cases previously considered as deaths from asphyxia. Babies presenting signs of difficulty in breathing should be handled with a view to the fact that in most of them, more or less damage has been done to the brain and meninges. There seems no indication for the use of violent measures for resuscitation, and whatever manipulations are carried out on any baby should be done with the most careful gentleness possible.

Consistent with this policy, one should free the upper air passages of obstructing material; a rubber catheter may be used to gently aspirate fluid from the trachea; contrast baths and massage may be used to provide adequate skin stimulation and if these measures fail, the gentle insufflation of the operator's breath with forced expiration by compression of the thorax is indicated. Where tension of the anterior fontanelle indicated increased intracranial pressure, repeated lumbar punctures with slow removal of fluid is advised. Whole blood from any available non-luetic source of any blood group, should be injected into the muscles of the back and thighs as an aid to decreasing the clotting time. A gas mixture of 5 per cent. carbon dioxide and 95 per cent. oxygen has been found to be a powerful stimulant to feeble respirations.

That there is a marked difference in the results obtained by physicians, in their individual cases, is shown in a survey made in Buffalo, New York, from birth records and death certificates during the years 1922 to 1926 inclusive, a 5 year period covering 9,520 deliveries by 33 physicians. Of the total, 408 had died under two weeks of age, and average of 4.3 per cent. The physician having the greatest loss delivered 227 infants and lost 24 before the end of the second week, an average of over 10 per cent. while the physician showing the best record, delivered 376 and lost only 6 during the same period, exactly 1.6 per cent. The other physicians had graduated percentages in all grades between these extremes. The individual handling of these cases must have been the most important factor to account for the discrepancy in results.

Deaths due to respiratory infections are in many cases the end results of conditions of malnutrition and lack of vitamins. The incidence of respiratory infections seems to be on the increase, with the factors of increasing congestion of living in cities, and super-heated super-dried atmosphere as prominent contributory causes increasingly prevalent everywhere. The replacement of the old heating stove with its steaming kettle, by the central heating plant without adequate provisions for humidification, is responsible, in the opinion of many, for much of this increase in disease of the air passages. We shall

have to look to the environment to decrease the morbidity from respiratory infections, and to the nutrition with abundant vitamins to increase the resistance of the respiratory mucosa to fatal invasion of infection through the nose, throat and bronchi. The use of viosterol cod liver oil for all infants, including breast feeders is certainly to be recommended.

The burden of education of mothers in these and other matters, has rested and should continue to rest with the family physician. It would seem that an ever increasing number of parents are becoming interested and are seeking advice and guidance in this field of preventive medicine. We must encourage this inclination by urging frequent follow-up visits and by stressing what few measures of general prophylaxis we have. During these return visits, in the last half of the first year, prophylactic anti-diphtheria inoculations and vaccination can be performed, which will certainly be reflected in the more favorable mortality figures for the ensuing pre-school years.

Concerning deaths from the group of miscellaneous causes, nothing can be specifically discussed here. The contagious diseases take a toll of infant lives in inverse proportion to the adequacy of their isolation. The high mortality rates of whooping cough and measles during the first year is recognized and is being emphasized more and more by public health officers. The enforcement of quarantine regulations is a matter of local handling in which the attending physician plays the most effective role. Active antiluetic treatment of the mother, if begun early in pregnancy, is most effective in reducing the incidence of congenital syphilis, which is responsible for as many as 26% of fetal deaths, in certain localities. Baby shows should be discouraged and their dangers pointed out to the well meaning public.

The prevention of diarrhea and enteritis is chiefly a matter of clean milk. This is shown by the decrease in the incidence of these diseases from a rate of 23 in 1915 to less than half this number in 1925. The average for the state of Illinois is about 13 per cent. that for St. Clair County last year was 15 per cent. and for Franklyn County a little higher. All large cities including Chicago have much more favorable records. Indeed the city of Seattle, Washington,

has the remarkably low record of less than 1 per cent. of infant deaths being due to diarrhea and enteritis. This group of deaths is certainly the most promising field for definite improvement in our mortality rate.

The most important single factor in reducing infant mortality is the nursing of the infant by its mother. This is so self evident that it would seem unnecessary to mention. The combined experience of hundreds of surveys shows that the mortality rate of artificially fed infants among all classes is four times that of those breast fed. The mortality for the group which is partially breast fed is only slightly higher than for those on the breast exclusively, which fact leads me to urge that every effort be made to sell the idea of breast milk to mothers. Weaning should be permitted only when there is no breast milk to be had or where some serious physical condition is present which would make nursing a dangerous burden. Active tuberculosis and pregnancy are justifiable causes for taking the infant from the breast, but certainly the recurrence of menstruation or other excuses should not be considered cause for increasing the risk to life by the giving of artificial nourishment. When one considers that the optimal period of nursing is only 9 months and that the breast fed infant of 6 months has been given nearly as much protection, it should be possible to encourage an increasing number of mothers to make every effort to complete the physiological cycle of childbearing. In most cases this will benefit their health even in cases where it has not been ideal.

The nursing of both breasts at the same feeding, in many cases, will cause a little more production by the stimulation thus given. This may be of the utmost benefit where the infant, although he may be gaining, seems to need more to be satisfied. If this measure is not successful, a supplementary feeding of a suitably prepared formula must be given, not as a substitute for one or more feedings, but should be offered after each feeding. The danger of over-feeding is negligible as compared with the danger of starvation so often encountered. It can be practically disregarded in view of the fact that the great majority of troublesome infants in the early weeks are hungry. The reason why so much so-called "colic" occurs in the eve-

ning usually is because mothers are fatigued at that time and the milk supply drops off in the afternoon and evening. The deficit can be made up by the supplementary feedings. The burden of proof lies with him who says that the mother's milk "deos not agree with the baby." Attempting to improve on nature by withholding breast milk, even though it be insufficient in quantity or quality, and substituting food meant for a calf is only courting trouble if not immediately, certainly in the end, as the mortality figures prove with a wide margin. If a well baby can't digest its own mother's milk, no other food need be offered. An infant with a respiratory infection may show violent gastrointestinal symptoms with little else to indicate his intoxication. Any infant showing such disturbances when receiving proper food deserves a careful examination for even mild changes in the ears, nose and throat. Changing to another mixture of food only adds insult to injury.

Time does not permit a discussion of infant feeding. I will however briefly enumerate the fundamental requirements of a proper artificial food:

1. It must be clean, that is, free from harmful bacteria.
2. It must contain sufficient calories in the quantity which can be accommodated in the infant stomach, that is, not too dilute.
3. It must contain sufficient of protein, mineral salts, carbohydrate, water and vitamins.
4. It must be digestible.

These requirements are fundamental and may be fulfilled by the use of various materials of varying composition to fit any specific case without the use of a slide rule. It has been found that the majority of infants will thrive when given suitable food in constant proportions whether they be a week old or six months old. Various mixtures seem to fulfill this requirement but I shall describe one which, for wide applicability, simplicity of preparation, cleanliness, digestibility and cheapness of cost, is in the opinion of many, quite unequaled. Reference is made to Marriott's formula as published in the *Journal A. M. A.*, last year. To prepare this formula, take 6 tablespoonfuls of Brown Karo Syrup, add one teaspoonful of U. S. P. Lactic Acid and add boiled water to make 1 pint. This syrup-acid solution keeps perfectly even

without refrigeration. Individual feedings may be made by adding one part of the prepared solution to an equal part by volume of any standard brand of evaporated milk such as Pet or Carnation. The food value of this mixture is 30 calories per ounce. Vitamine "C" is supplied by giving 1 or 2 tablespoonfuls of orange or tomato juice. Vitamines A. & D. are supplied by giving $\frac{1}{2}$ to 1 teaspoonful of viosterol-cod liver oil 5-D once a day. Not only does this formula seem to be perfectly well suited to normal infants, but it is particularly well adapted to cases of undernutrition or athrepsia, in which case, as in most normal cases, the infant's appetite is the criterion of the amount to be given. A four hour feeding schedule should be used.

It is most important to keep in mind that, when an infant is being given such a formula or any other proper formula and abruptly begins to have symptoms of vomiting or diarrhea or both, the real cause may be and in most cases is a parenteral infection, probably of respiratory origin. Treatment should be directed to the general systemic intoxication of which the vomiting and diarrhea are only the outstanding symptoms, and should not include a radical change in either the character or composition of the formula. Obscure foci of acute infection in the ear or accessory nasal sinuses must be sought for in these cases. Positive findings are being met much oftener in the past few years, since their importance has been demonstrated.

The follow-up visits during the latter half of the first year should be the occasion for advice in regard to the diet which should include first, cereal gruels, then vegetable soups, pureed vegetables, meat broth, egg yolk and stewed fruits. The early training in balanced diets with regularity and variety plays an important part in the prevention of bad habits of eating in the later years as well as providing the essential minerals and vitamins in which breast milk is deficient. Weaning should, of course, be accomplished during this period, the optimum time being at nine months. Any type of clean unsweetened milk may be used but boiling is necessary.

To summarize.—Prevention of infant deaths begins with proper periodic prenatal care. It requires a consideration of the fact that the brain and cerebral vascular system is the site of trauma

in a large per cent. of early deaths, particularly so with prematures. The premature infant should receive care, much different than a normal newly-born. The properly nourished infant is less susceptible to serious respiratory diseases. When air is heated it should also be moistened. Whooping cough and measles have a high mortality rate among infants. The time to treat congenital syphilis is before birth. By sincere efforts, more mothers can be persuaded to nurse their children with the aid of supplementary food at each feeding where required. Nothing agrees with a baby so well as its own mother's milk.

Deaths from enteritis can be reduced to the vanishing point by clean food, but respiratory infections are often the cause of vomiting and diarrhea.

Infants a year old should be taking completely balanced diets including boiled cow's milk and should have already been vaccinated and immunized against diphtheria.

Maternal and infant mortality is one of the most important medical and economic problems in America and is receiving greater attention each year. The organized medical profession of Illinois should cooperate with the Department of Health to the fullest extent in this work.

In general, one must subscribe to the recommendation of Dr. W. A. Mulherin, Chairman of the Section of Diseases of Children, made at the last session of the American Medical Association, to the effect that state pediatric societies should be made to appeal to general practitioners, to the end that "many more, healthier and stronger babies and children will be reared and infant and child morbidity and mortality will be reduced." 1st Natl. Bank Bldg.

IDEAS OF A DOCTOR'S WIFE ON CASH, CREDIT AND CHARITY IN THE MEDICAL PROFESSION

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There are, doubtless, many doctors' wives who have nothing whatever to do with the collection of the money that their husbands have earned; who take it when it is given to them, or when the medico-husband's trousers have been hung for the night in a convenient place, and give no thought to the fact that those same dol-

lars were earned not only once, but in most cases several times before they came to roost where they belonged. Earned by working for them, and then earned by working to get them.

But these wives are in the minority, and the wives of small town doctors and country doctors are seldom so blessed. Most of them can tell you how old Mrs. Jones' account stands, and whether the Smith's last baby has been paid for yet, and just how many statements it took to bring John Henry Robinson to book, as promptly and efficiently as they can tell you how to set the table for the doctor's birthday dinner party—which he is almost certain to get knocked out of attending, at the last minute.

The doctor's wife, I repeat, in all human probability keeps those accounts added up, and those statements sent out, herself. The "men must work and the women must weep" day is past; and the "men must work while the women do the worrying" day followed it. In this enlightened age the doctor's wife says, "Well, if he can't get that money, I can. This family needs some clothes." And straightway she sends a tactful little reminder to Mrs. Jones, and a gentle hint to Mr. Robinson, not neglecting to remind the Smiths that babies, as well as radios, can be paid for on the instalment plan. And sometimes she brings in the bacon, and sometimes, alack! she brings in an irate patient, highly resentful of a "dun" sent for work done six months before.

The public needs education on the subject of paying its doctors, and the doctors need publicity agents to get a few facts over to the public.

Unless one has been many times behind the scenes during conversations between a physician and his patients on the subject of finances, it is impossible to realize the point of view of the average layman in regard to the payment of a bill owed to a physician. They simply do not "get" the idea that a doctor's skill is his stock in trade, for which he should receive an equivalent in cash, or not too long extended credit.

My own opinion of the basic cause of this attitude is that the relations of family physician and patient are more those of friendship than of business.

The specialist, who is a stranger, or the doctor called in from another town or city, actually

fares better in the way of prompt payment than does the physician who has been carrying the patient on his books for, possibly, a couple of years, and who will be called out in the dead of night after the specialist has gone home with his fee in his pocket, to tell the family that the patient is all right if they just won't smother him to death, and who will go home with nothing in his pockets but what he started out with.

It has always been a mystery to me, under such circumstances, how the home doctor could restrain himself from enticing the specialist out behind the grape arbor, taking him up by the heels, and shaking the money that he himself had a prior and more legitimate claim to, "out'n him!"

It is not desirable, of course, that relations between physician and patient should be anything but friendly; but it is eminently desirable that the patient should be brought to the realization that a doctor ought no more to be expected to give away his time and his services than the butcher or the plumber or the Electric Light Company, ought.

How many butchers would doff their aprons, and close their shops, and go away for a day or two with a customer, just because said customer had decided to buy himself a little Jersey cow to keep in his back yard, and would feel freer from the possibility of being gypped in the transaction if the family butcher were along?

But lives there a small town or country doctor anywhere on the face of the globe who has not smothered a sigh as he closed his office—and thereby stopped his income for a day or two—while he accompanied a patient to the City surgeon who was to relieve him of his appendix or some other portion of his anatomy?—said patient being firmly persuaded that the family doctor's presence in the operating room is necessary to his safety, and the doctor knowing no way that would not sound ungracious to get out of going; and lacking the back bone to say, "I cannot afford to close my office for that length of time. It takes too large a slice out of my income."

If he goes, he loses the money he would have made during the time of his absence and also the protracted cases of sickness beginning on that day, which would mean part of his income

for some time to come. If he does not go, he loses the friendship of his patient. Take your choice gentlemen! It's all you can do until you find some way to educate the public to the realization that your time and your skill are the wares you have for sale, just as the jeweler has for sale rings and watches and brooches. No matter how friendly your relations with him, you don't expect him to *give* you those things, do you?

There is a prevailing impression that a doctor "makes his money easy." An eight hour a day man's wife was once heard to say to a doctor's wife, "I wish my husband made his money as easily as your husband makes his."

Promptly the doctor's wife took up the cudgels. "How would your husband like to hear some one at his front door soon after he went to bed tonight, demanding that he get up, go to the store, and get the caller a bushel of potatoes? And when he got back home and ready to go to sleep again, to have the call repeated from another source? And how would he like the feeling that whether he got his night's rest or not, there would not be one minute of the next day that he could depend on for resting, or for any other purpose than attending to more just such calls? And how would he like to know that he would lose at least a quarter of all the money that he had earned during both night and day?"

And the eight hour a day man's wife could only say, "Well, of course . . . Why I never thought about the doctor not getting pay for what he did!" See? A bee in *her* bonnet. One person educated.

And while we're in the educating business, there is one point that should not be neglected. Any doctor who has brought a baby into the world with no hope of remuneration for his services, and then has been asked to head a subscription to buy the baby's milk, will know what that point is.

The charity that covers a multitude of sins has got nothing on the charity that covers a doctor's ledgers. There is no day that a physician does not give the skill that is his source of income, to the lame, to the halt, and to the blind, to those in trouble, and to those in pain, who could not have relief if the doctor demanded payment for value received.

There is the story of the French doctor who kept an account on his ledger with "le bon Dieu," and entered thereon his charity cases. Well, there are all sorts of ways of looking at a thing. We have no evidence, of course, that he was a cheerful giver, but I think he must have been a kindly old soul whom Time had taught to make the best of a bad matter. Whether he got credit with "le bon Dieu" for charity thus thrust upon him, is of course none of our business.

But no one need tell me that the good doctor did not often sigh as he looked at that account, and think that he could do with a little charity himself, occasionally. It was Elbert Hubbard who said, "God help the rich; the poor can beg."

According to carefully worked out statistics the average physician stands to lose at least one fourth of the money that he earns. Not all of it, of course, can be charged up to the demands of charity, for the physicians' non-paying patients include those who can pay and won't pay as well as those who can't pay and therefore don't pay; and at that it is difficult for him to draw the line between the two just where it belongs. But this article deals with bona fide charity, and is intended to call attention to the fact that enough of even a good thing is enough.

The physicians themselves don't need any education on the subject, but how to sell the idea to the layman? How to get the public to realize that the professional man is a business man who expects to live by the proceeds of his business, and who wants something besides gratitude with which to butter his bread? Who wants to clothe his family and pay for its pleasures with the money he has earned, and not see that same money making life a pleasant and an easy thing for the man who owes it to him; and who justly considers himself violently abused when he is asked to give so much of his time and his skill to the cause of charity, and then, as though all this were nothing, is requested to head all sorts of lists with substantial donations to the same cause, in money.

Nothing short of concerted action on a program of education will ever produce the desired effect.

The public can learn. See how quickly it absorbed the idea that halitosis is the supreme social offense. It took continual hammering

with pictures and pointed remarks to do it, but consider the results. A little bottle in every home.

What layman has done, medical man can do. That is, of course, with his wife's help. Working collectively, among them they ought to be able to upset the old fashioned apple cart of the present situation in the doctor's financial affairs, and set in its place, on a bright and shining standard of justice and reasonableness, a brand new, efficiently working 1930 model of Economics in the Medical Profession.

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THE PUERPERAL PERIOD: ITS MANAGEMENT*

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In post-natal clinic work, so many striking examples of the lack of proper puerperal care and early vaginal examination are seen that it is apparently necessary to call this to the attention of those doing obstetrical work along with a general practice. Approximately 75% of the women seen at the end of the usual six week period post partum have either retroversion of the uterus, erosion of the cervix, or some bladder difficulty, and many patients have all three. These women are all delivered by general practitioners, internes, or medical students, the event taking place in the home or in one of many hospitals. In private specialized practice only about 2% of the patients develop these conditions. The only obvious answer is that the care accorded the private patient during labor and in the puerperium, and the early vaginal examination after delivery are the factors responsible for this enormous difference in percentage.

Of primary importance is the management of the patient during labor. Any procedure that increases the amount of relaxation of the abdominal muscles, pelvic fascias, and pelvic floor also increases the amount of involution necessary before these structures can return toward their normal state. Thus, any of these procedures increase the chance for a resulting retroversion, cystocele, rectocele, and prolapsus.

Unnecessarily prolonged and strenuous bearing down pushes the uterus into the vagina and produces an abnormal stretching of the abdominal muscles, the supporting fascias of the uterus, and the pelvic floor. Surgical deliveries, many times necessary only for the convenience of the person doing the delivery, also tend to increase the amount of relaxation both abdominal and perineal. Version and extraction, difficult high forceps operations, and long sustained forceful fundal pressure fall into this classification. Finally, attempts at expression of an incompletely separated placenta push the uterus into the vagina and cause undue stretching of the pelvic soft parts.

The puerperium is that important period during which the care accorded the patient very definitely determines the ultimate condition of that patient. The large puerperal uterus tends to retrovert because of its increased weight, and keeping the patient flat on her back for eight or ten days only adds to this tendency. Any degree of subinvolution will increase the weight of the already heavy uterus thereby causing still further deviation of the organ posteriorly. Prevention of these events is rather easily accomplished. Fluid extract of ergot is given as a routine measure for the first three days after delivery in order to keep the uterus firmly contracted and thus keep its weight down to the absolute minimum. Together with this the patient is encouraged to turn from side to side and to lie on her abdomen as soon as the bleeding in excess is stopped. This acts to throw the uterus forward and at the same time to give exercise to the abdominal muscles as an aid in bringing back their tone. As soon as the lochia loses its bright red color (about the fifth day) the patient is allowed to sit up on a back rest in order to throw the uterus still further forward and to promote drainage from the vagina.

Particular attention must be directed to the bladder, inasmuch as following the passage of the fetus through the birth canal the bladder is traumatized to some extent and its tone is reduced. The patient may develop either a complete retention or a paradoxical incontinence resulting in an over stretching which may cause permanent bladder injury. A full bladder lifts the uterus out of the pelvic cavity, preventing proper involution and pushing that organ into

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retroposition. Many instances of the neglected puerperal bladder are seen in a gynecological practice, and an outstanding case may be cited here. A patient, ten days after delivery, was brought in by her doctor with the diagnosis of a very rapidly growing ovarian cyst. The tumor reached well above the umbilicus. The patient was catheterized, and after the removal of 3500 c.c. of urine the tumor had disappeared.

If the patient does not void within twelve hours after delivery she is catheterized. This is repeated every twelve hours until she does void, and following that she is catheterized once daily for residual urine until less than two ounces are obtained. The amount of urine passed during this period is carefully recorded in order that renal insufficiency with suppression can be detected immediately and treated. If after two or three days the residual urine is over three ounces, a retention catheter is left in place for four or five days. This prevents over distention of the bladder and allows for contraction to a size approaching the normal. During the time that catheterization is found necessary, or when the retention catheter is in place, the bladder is irrigated once daily with 1-5000 silver nitrate solution to prevent the formation of a residue which may form the basis for infection.

In all patients the external genitals are cleansed with sterile water after each urination and defecation. This does away with excessive discharges which may irritate and tends to prevent ascending infection through the gaping vagina. There is an added necessity for this procedure in those patients who have an open wound that has been sutured, either tear or episiotomy. Such wounds are very easily infected, and discharges must be kept from continually running over them. After delivery there is an unusual amount of edema of the external genitals. If it is found necessary to put sutures into the perineum they should be tied very loosely in order to allow for this edema. Many times, even after this precaution has been taken, the edema is so great in amount that there is a tendency for the stitches to cut through and the patient experiences rather severe pain. This excessive swelling with its resulting discomfort to the patient is best relieved by hot moist dressings of sterile glycerine. Such dressings act as soothing agents and the glycerine, because of its

hygroscopic properties, tends to reduce the edema.

When the uterus involutes to the point where it is not palpable above the symphysis pubis (about the tenth day), the patient is allowed to get out of bed. This further activity leads to still better drainage from the uterus and vagina, gives more work to and thereby increases the tone of the abdominal musculature, and helps to keep the uterus up from the cul-de-sac. As soon as the patient is out of bed she is taught the knee-chest position as one of the most important steps in the prevention of retroversion. When this position is properly taken, the air rushing into the vagina forces the uterus into normal position. When the vagina is ballooned out by the air the purpose of this position is accomplished, and the patient may relax and lie on her abdomen for a period of about five minutes. This is repeated once or twice daily for six weeks.

The patient is allowed to leave the hospital on the twelfth day following the delivery, but before she is discharged a vaginal examination is made. This examination gives one all the necessary information on the condition of the perineum, vagina, and cervix, and the size and position of the uterus. If retroversion is found at this time the importance of the knee-chest position is explained to the patient and she is instructed to return for examination in ten days. If at the end of this time the uterus is still found to be in retroversion a Hodge-Smith type pessary is inserted and the patient is instructed to return in three weeks. At the end of this time the patient is examined to determine if the uterus stays in position after the pessary is removed. In the event that the uterus is still in retroversion the pessary is reinserted and left in place for three to four weeks and the patient is again examined. If at the end of four months the uterus is still retroverted, orthopedic measures will probably be of no avail.

The cervical erosion can be prevented as readily as can retroversion. Avoidance of any unnecessary tampering with the cervix is the first step toward this prevention. The early turning and sitting up of the puerperal woman increases the amount of drainage from the vagina thereby lessening the chances for the formation of a pool of lochia in which the cervix

would lie and by which it would be irritated. This irritation could be the causative factor in the production of an erosion, or in cases where erosion is already present the irritation prevents its healing and allow the process to go further. On leaving the hospital the patient is instructed to take a daily douche beginning about twenty-five days after delivery. The douche used is made up of one drachm of tincture in two quarts of warm tap water. This acts as a mechanical cleansing agent while the iodine also acts as a mild antiseptic, deodorant, and healing agent. The cervix is examined six weeks after delivery and if any degree of erosion is found to exist the douches are continued for another three weeks. If at the end of this time the erosion persists, the cervix is cauterized with the actual cautery and is thus permanently cured.

An unusual case of post partum atresia of the vagina which came to our attention recently could have been easily prevented had a vaginal examination been done early in the puerperal period. The vagina had evidently been torn by forceps and had not been repaired, consequently adhesions formed between the anterior and posterior vaginal walls causing a complete atresia with retention of menstrual blood. Had this patient been examined on the twelfth day post partum the very fine adhesions then present could have been easily separated by examining fingers and the ensuing difficulties could have been avoided.

SUMMARY

1. Post partum retroversion, bladder difficulties, and cervical erosion are seen much too commonly, inasmuch as they may be easily prevented.

2. Early activity on the part of the patient is very desirable.

3. Proper care of the bladder saves much future difficulty with that organ.

4. Vaginal examination before the patient leaves the hospital is a very valuable information giving procedure.

5. The early use of a pessary will frequently prevent a permanent retroversion.

6. Iodine douches are a great factor in the prevention of cervical erosion.

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THE TREATMENT OF VARICOSE VEINS BY THE INTRAVENOUS INJECTION OF SCLEROSING SOLUTIONS

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Few innovations in surgery have met with such deserved universal approval and success as the injection method of treating varicose veins. Within the past few years, the histopathology of chemically-induced venous occlusion has received considerable study and the technic of intra-venous injections has been simplified, perfected. Therefore, many surgeons have adopted this mode of treatment and have reported their results. They are almost unanimous in calling attention to its great advantages, in suitable cases, over other operative or non-operative methods.

Varicose veins of the leg, of the thigh, or of both thigh and leg and the eczema and ulcerations so frequently associated with and usually arising from them, are often painful, disfiguring, disabling and potentially dangerous. They are a cause of economic disability to those whose vocation necessitates the standing posture for lengthy periods. Besides, in the case of women, the present fashion of wearing short skirts and transparent stockings, with the resulting exposure of the thin silk covered leg, is a matter of very great moment and distress when such varicosities are present.

There is no accepted etiology for varicose veins. The most probable causes appear to be venous dystrophy,¹ venous hypoplasia, heavy continuous work in the standing position, hereditary defect or acquired incompetence of the valves of the veins.² Abnormal, constant pressure of any kind along the course of the big veins, in the abdomen, pelvis or leg frequently determines varicose veins. The stagnation or even reversal of the circulation present in varicose veins have been referred to by many writers.³ Sicard and Gally proved radiographically, (by means of lipiodol in the veins) that the blood-flow in varicose veins is reversed. Melkon^{3½} x-rayed his patients and noted that, in both the sitting and standing posture, the solution deposited in varicose veins flowed toward the periphery.

In the vast majority of cases even when ulcers

are present, it is the superficial veins that are dilated, tortuous, thickened, sacculated, in a word, that are varicose. The deep veins owing to the strong muscular and fascial support which they enjoy are rarely, in the absence of a previous infectious thrombo-phlebitis, the seat of varicosities. Many patients with varicose veins have contented themselves with palliative measures, such as the use of elastic stockings, rather than to submit to ligation, resection or excision of the dilated vein or veins or to any of the many other operative measures devised for dealing with varicose veins of the leg and thigh. Many patients who refuse operation can easily be persuaded to consent to the injection treatment, thus saving themselves the disability, the discomfort and the dangers incident to untreated varicose veins.

The immediate effects of operative treatment of varicosities of either the leg, the thigh, or both, are usually good. The remote effects, however, often are far from satisfactory. Like myself, others have found that owing to the abundance of the collateral cutaneous and subcutaneous venous circulation and also owing to the persistence of the etiological factors, the condition frequently recurs, and often with as great intensity as prior to the operation. Recurrences, are due to the dilatation of some tributaries of the saphenae, magnae or parvae or both, which previous to the operation were apparently normal. Canalization of occluded or ligated veins is a very unusual occurrence.

McPheeters,³ who collected data on 6771 operated cases, found 19.2 per cent. of recurrences after 5 years, a figure which I think is much below the general average, especially when the deep veins are involved. In this series of collected cases, there were 35 post-operative deaths from pulmonary embolism, 37 cases of non-fatal pulmonary embolism, and 28 deaths from other causes. The results of operative treatment of varicose veins are, at times, therefore, disappointing both to the surgeon and to the patient, especially to the latter who is subjected to the disability and expense entailed by hospitalization. There has been a diligent search for a less unsatisfactory method of dealing with this condition, and it is my belief that injection method of obliterating varicose veins is the best solution, as yet found. No treatment has been de-

vised which absolutely protects the patient from recurrence; all methods have failures.

The Injection Treatment of Varicose Veins. Although a satisfactory method of obliterating varicose veins by the intravenous injection of sclerosing substances is of comparatively recent date, yet attempts to do so date back to 1851, when Pravaz tried to obliterate an aneurism by injecting a solution into it. Chassaignac, in 1853, suggested the injection of perchloride of iron into varicose veins. Desgranges,⁴ in 1854, used an iodotannic solution for the purpose. Various other methods were used with but little success until in 1904 Tavel², of Berne, recommended the injection of 5 per cent. phenol. In 1908, Schiassi³ reported the results of his combination treatment of surgery with the injection of Lugol's solution, to the Italian Surgical Congress. He claimed to have obtained very satisfactory results.

In 1911, Linser,⁵ of the Tübingen Clinic, Germany, reported that the continued intra-venous use of mercuric chloride in the treatment of syphilis, obliterated the injected veins and that he had used this knowledge in the treatment of varicose veins. Later on, in 1925, Linser⁵ changed from mercuric chloride (on account of its great toxicity) to sodium chloride solution. The toxicity of the mercurial salts unfits them for general use as obliterating agents of varicose veins.

In 1920, Sicard,¹ of Paris, introduced the use of sodium carbonate; this solution proved too caustic. The following year, he with Paraf⁴ reported much better results with sodium salicylate. The clinical reports of Sicard, Paraf and Lermoyez,⁴ in 1922, fully established the modern method of treating varicose veins by injections of sodium salicylate as rapidly sclerosing and practically painless.

Besides the sclerosing solutions mentioned many others have been used. Sicard and Gaugier¹ mention quinine hydrochloride and urethane as used by Genevrier. Grangier advises that the mercurial salts or quinine preparations be used only in cases that resist the action of sodium salicylate. Sugar in the form of calarose or invertose has been used by Ludwig and Nobl.⁸ Alcohol, dextrose and glucose have also been employed. There is not, as yet, any one solution

alone which can be considered entirely adequate for every purpose.

The Mode of Action of the Sclerosing Solutions. The earlier advocates of the injection method sought a rapid coagulation of the blood—a coagulation thrombosis. Later, however, the view was reached that the desired mode of action was the production of a localized, limited and chemical thrombo-phlebitis. This thrombo-phlebitis, chemical in nature, results from inflammation and injury of the intima leading to agglutination of the vessel walls and obliteration of the vessel lumen. Such an effect is produced either by a sodium chloride, sodium salicylate or sugar solution of a proper percentage. Following the injection of these sclerosing substances into varicose veins, microscopic examination of removed vein-segments shows a swelling, an inflammation and a destruction of the intima, all due to the chemical irritation. The formation of a chemically produced local thrombus adherent to the vessel wall results from the deposit of fibrin and broken down blood cells. The thrombus becomes hyalinized and organized within a few weeks and ultimately a fibrous cord is all there is left of the vein. The whole process depends upon the original effectiveness of the sclerosing solution in producing a sufficient irritation and inflammation of the intima. There is no coagulation of the blood in the vein. The mechanism as outlined by Régard⁶ is first an edema and destruction of the vessel wall endothelium with detachment of endothelial cells and a fibricuous deposit on the inner surface followed by the formation of a fibrinous blood clot which in time fills the lumen of the vessel and obliterates it; the injected vessel is destroyed by organization of the chemically produced thrombus and ultimately becomes a fibrous cord.

Advantages of the Injection Method. Compared with the operative methods in vogue, the injection method of treating varicose veins possesses certain admitted advantages.

First, the patient is spared the mutilation of a surgical operation as well as the greater expense and loss of time. Surgical anesthesia, local or general, is not required, is needless. A properly performed injection is practically painless. Incisions not being required, there remain no disfiguring scars. No hospitalization is neces-

sary; and the treatment being ambulatory patient is not incapacitated and can continue his or her edema. The treatment does not entail any motor, trophic or febrile disturbances.

Second, with the injection method, there is a greater certainty of cure. As already mentioned, recurrences after a few years are not uncommon after operative treatment, should they occur after injection, further injections will cure them. Sicard and Paraf⁹ in a very large series of injections saw just a few recurrences. Alexander¹⁴ in 100 cases saw none.

Finally, with injection, there is less danger of complications. In regard to mortality, McPheeters and Rice⁸ state that in 53,000 cases of injection-treatment reported in the literature there were only 7 deaths, (0.013 per cent.). Some of these occurred in the early period when the technic had not been established and when it was thought necessary to use strongly coagulating injecting substances. At the present time, the mortality from the injection treatment is practically nil. The mortality from operative treatment even in the best clinics is not less than 1 per cent. It might be thought that pulmonary embolism would frequently occur from this method. But it does not. Only 4 cases of pulmonary embolus consecutive to the injection treatment are found in the literature (only 2 of which occurred with correct technic) whereas the mortality from embolus following surgical operation of varicose veins is stated to be 0.7 per cent. With the present day improved technic of injection and with due precautions, the possibility of pulmonary embolus is practically eliminated. Sicard and Gaugier¹ who in 1928 reported upon 325,000 injections observed no occurrence of pulmonary infarction. Irrespective of the solution used, it is well to avoid overdosage.

Indications and Contra-indications for Injection. Superficial varicose veins of the leg, associated or not with eczema, ulcer or other complications, can and should in the absence of contra-indications be treated by the injection method. Operations should be reserved for cases that do not yield to the injection treatment. Neither the extent of varicosity nor the age of the patient excludes the use of the method.

The method is contra-indicated when there is a phlebitis, deep or superficial, present or until

it is quite certain that all effects of a preceding phlebitis have fully cleared up. Also, when the venous dilatations are clearly the result of cardiorenal disease with venous stasis; or when they are part of the syndrome of Buerger's or Raynaud's disease. It should not be used if gangrene be impending or existing.

The injection method is also positively interdicted when the varicosities are compensatory in nature, secondary to occlusion partial or complete of the deep veins. Superficial varicose veins, when secondary to thrombosis or thrombophlebitis of the deep veins, perform the rôle of a collateral circulation and must be respected. To occlude them would invite edema and gangrene of the leg.

In the presence of pregnancy, in the presence of large intrapelvic or abdominal tumors, in a patient with marked hypertension, other and preferable existing remedial measures are indicated. Varicose veins associated with the appearance of the menses, during the course of pregnancy and with the evolution of the menopause often yield to ovarian therapy, supplemented by the administration of hamamelis, hydrastis, etc. Varicose veins occurring in the course of pregnancy unless very troublesome had better not be injected. During gestation, the condition is often transitory and may be due to an endocrine disturbance.

If the superficial veins alone be involved, injection, with or without ligation of the saphenous vein near the foramen ovale gives uniformly good results.

Kern and Angle⁹ remark that there is no absolute test for determining the presence of obstruction of the deeper veins and they depend more on the patient's history of a post-operative or post-partum phlegmasia alba dolens than on the Trendelenburg test. If there be doubt, it is better not to inject.

Technic of Injection. No matter what sclerosing substance is used, the technic of making the injection is about the same. A 5 or 10 c.c. all glass, eccentric tip Luer syringe and a 24 or 25 gauge needle with a short bevel are generally used. The same preliminary precautions in regard to sterilization of instruments and to selecting and cleansing the site of injection should be observed as in all intravenous injections.

The injection may be made with the patient in

the standing, sitting or lying position, the sitting being favored by many practitioners. Sicard and his associates favor the recumbent position; they state that it enables the sclerosing fluid to act more rapidly on the intima. In my own practice, I have generally followed this procedure, but sometimes it is a little more difficult to enter the vein. McPheeters prefers the horizontal position also, but first places while the patient is standing, a tourniquet above the site of injection, releasing it as soon as the varix is entered.

It is by no means easy to insert the needle properly in dealing with a tortuous mass of dilated veins with thin walls, such as occur in varicosities, and this is a matter of technic which the physician or surgeon who wishes to employ this method must thoroughly master. No one should lightly undertake to inject varicose veins unless he is quite competent and familiar with the technic of intravenous injections, because, even to the surgeon who is accustomed to the method, it is often difficult to deal with old-standing varicosed masses.

Care must be taken not to transfix the vein or push the needle through the further wall. When blood flows in the syringe and the surgeon is satisfied that the needle is within the lumen of the vessel, the thumb and middle finger of the left hand expresses the blood by a stroking movement from the section of vein for two or three inches proximal and distal to the needle insertion. When this section is emptied the fingers are not removed but the pressure is kept applied until the injection is completed. The injection should be slow, about one 1 c.c. in 15 seconds and not more than 5 or 10 c.c. of solution (according to the solution used and the circumstances) should be injected at one time. When the injection is completed, the index finger of the right hand is pressed over the point of injection, then the needle is pulled out quickly, the pressing finger preventing any escape of fluid. Infiltration of the solution into the perivascular tissues is to be avoided. The other fingers of the same hand are kept pressed upon the vein for from three to five minutes to prevent the flow of blood while the sclerosing injection is working. Finally, a piece of adhesive tape or collodion is placed on the point of injection and a cotton pad protected by a 4 inch Ace

bandage is placed over the site. Kern and Angle⁹ apply a firm pressure bandage taking in the entire leg and foot. This bandage is worn during the treatment and for some weeks following.

Most operators prefer to place an Esmarch bandage or tourniquet above the knee when injecting veins below the knee. This is done especially for the purpose of making the veins prominent. Stoner¹⁸ and others prefer not to employ a tourniquet. We never have found it necessary to employ a tourniquet. This is a matter for the surgeon's judgment. Kern and Angle⁹ have not hesitated to inject varicosities in the upper third of the thigh and have caused thrombosis within 2 inches of the fossa ovalis. Most workers consider ligation of the saphenous vein entirely unnecessary. Some consider ambulatory ligation of the saphenous vein indicated in a small group of cases in which the saphenous trunk above the knee is dilated and shows a marked reflux from above. Bratrud¹ in dealing with high varicosities after ligating above the point of injection, opens the vein in the middle or lower third of thigh and injects 20 c.c. of sclerosing fluid after first emptying the vein. Kern and Angle feel that if the saphenous vein is dilated and tortuous above the knee, the entire affected venous tree must be obliterated or else there will be a recurrence of varices in the leg.

More than one vein may be injected at the same sitting or different sections of the same vein. The smallest vein should be injected first and the largest last, and in any case the most distal part of the vein should be first injected. Not more than 10 c.c. of solution should be injected at one time in any spot. The injections are repeated twice weekly until all evident varicosities are injected. The treatment is ambulatory. Some severe cases may require as many as 20 injections. When the sclerogenic fluid instead of being injected intravenously has been deposited in perivascular tissues, inject into the field some ordinary physiologic salt solution. This will terminate the destructive action of the escharotic and thereby preserve the viability of the tissues.

Reactions and Complications. The immediate effects of the injection are vaso-motor, hence the pallor, the goose-flesh appearance and the tem-

porary cramps that follow the injection. Some edema and tenderness usually persist for a couple of days or so along the site of injection but call for no special treatment. In an occasional case, the intimal inflammation or a cellulitis may extend even to the sapheno-femoral opening but as this is a chemical and not a bacterial inflammation, the venitis is localized, limited and no uneasiness need be felt. Moist warm bandages usually disposes of it. Superficial ulceration or sloughing may occur in a small percentage of cases, due either to lack of asepsis, or to faulty technic: penetrating the whole vein, depositing the escharotic fluid in the perivenous cellular tissues, leakage around the puncture, etc. When it occurs, healing may be very tedious but a serious result is very rare, though an ugly scar may be the ultimate sequel.

A recurrence may appear owing to insufficient obliteration and should be dealt with by a fresh injection. Kern and Angle observed only one recurrence in 651 injections.

Louste and Levy-Franckel¹⁰ have reported a case in which a linear band of hypertrichosis formed over the venous trajectory following a sclerosing obliteration of a varicose vein. Consecutive pigmentation of the area has been reported by some others but no other case like this appears to have been reported. The danger of embolism, (it has occurred so rarely) can be disregarded; that of toxic effects, can be eliminated by the use of relatively harmless solutions.

Comparison of the Sclerosing Solutions. Clinically, sclerosis may be obtained with any of the solutions ordinarily used. The sclerosing effect of 20 to 30 per cent. of sodium chloride is perhaps better than that of any other solution. Stronger solutions are likely to be followed by intense cramps in the limb; even from weak solutions, if deposited outside the vein, parophlebitis with or without sloughing may result.

With sodium salicylate, used alone, systemic reactions may occur although they are not pronounced. Otherwise the effects are much the same as with weak sodium chloride. In my own series of cases (about three hundred), I have almost always used sodium salicylate in 20, 30 or 40 per cent. solutions. I have never observed any serious reactions, although some cramping and pain in the limb for some minutes following the injection of 10 c.c. were frequently observed.

I now rarely inject more than 5 c.c. at any one point at any one time. When the patient rested for about $\frac{1}{2}$ hour with the leg in an elevated position, all symptoms subsided and disappeared. These cramps are always of a short duration and are without danger. With dextrose solution, up to above 50 per cent. strength, there is practically no cramping nor perivenitis if deposited outside the vein but the sclerosing effect is less than with the sodium salts. McPheeters gives first place as a sclerosing and safe agent to calarose, a solution containing 75 per cent. invert sugar and 5 per cent. cane sugar.

Genévrier's solution—quinine and urethane—is given second choice by McPheeters who states that it causes no cramps whatever at the time of injection. In the presence of pregnancy, or renal disease, quinine preparations should not be used.

Probably the best sclerosing and most generally satisfactory solution (when injected into the vein) is one containing 40 per cent. sodium salicylate; I have found nothing to equal the sodium salicylate solution for sclerosis, though, I must acknowledge that it is very caustic to extra-vascular cellular tissue. In a few cases resistant to sodium salicylate and also in a few cases of very voluminous veins, I have used at times mercuric iodide and at times quinine preparations. Kern and Angle consider that a mixture of 50 per cent. dextrose and 30 per cent. sodium chloride is an ideal solution.

Clinical Results of the Injection Treatment of Varicose Veins. As already mentioned, McPheeters states that in 53,000 cases of injection treatment of varicosities reported in the literature the operative mortality was only 0.024 per cent. Meisen¹¹ has reported a series of more than 2,000 cases without a fatality and there was only 1.6 per cent. of any kind of complication following the method using sodium chloride.

McPheeters' opinion based on his personal experience of 348 cases of varicose veins and ulcers is that the injection method is far better than the operative procedures and that varicose ulcers can be healed and kept healed by it.

Schussler¹² following his experience of a large series of treatments states that he knows of no therapeutic measure that gives greater satisfac-

tion to both physician and patient. Kern and Angle quite recently reporting as the result of their experience of 154 patients treated by the injection method say that they are convinced that this is the method of choice.

Recent literature contains a number of reports of smaller series of cases and the general opinions expressed are similar to the foregoing, and prove that the fears of pulmonary embolism, sloughing of the tissues from perivenous injection, toxic effects of solutions used, which have delayed or prevented some surgeons from adopting the method are negligible or can be avoided.

My own experience comprises about 300 patients treated for varicosities, 40 of which had varicose ulcers, and a much larger number an eczematous condition of the skin. Sodium salicylate in 20, 30 and 40 per cent. solution was almost always the sclerosing agent employed. There was no fatality in this series nor any case of pulmonary embolism. Temporary cramping, pain, and edema were observed following the injections in a large number of the patients but in only a few were these of such moment as to prevent the patients from following their occupations. Superficial sloughs occurred in 15 cases. All were due to faulty technic in injecting. In 4 of these, the recovery though painless was very tedious. In none of these did I have to open up the sloughing area and excise necrotic tissue.

A recurrence after the lapse of several months in the area treated was observed only in 12 cases. They were treated with further injections and a good ultimate result was obtained. Several of these patients have been followed for 3 years and show no signs of recurrence. The contrast with similar cases previously treated by excision of the dilated packets of veins has been very striking and I feel quite enthusiastic in regard to the great value of the injection method when it is applicable. I feel that in the future, it will supersede in the vast majority of cases all the other now existing methods.

Its main advantages are that it is an ambulatory method, that it is inexpensive, painless, simple, efficient, safe, and almost always innocuous. By obliterating the varicose veins, we relieve in part or wholly the symptoms commonly associated with them, such as eczema,

varicose-ulcers, cold feet, heaviness of the limbs and the arthritic pains about the knees.

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ROENTGENOLOGIC STUDY OF AORTIC ARCH

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The diagnosis of the lesions of the aorta in text-books is by no means uniform and therefore the treatment unsatisfactory, the prognosis from the same equally varied. The end-results are stated so indefinitely that it is hard in some cases to form any idea of what can be achieved. To decide what could be done very careful observations were made by us in the beginning of the world's war in Serbia in 1914-1915 in our Hospital in Uskub and Geygelia and later in Montenegro. We had a considerable number of patients wounded or not, treated over a period of one year and later in 1917 serving on Exemption Board of U. S. we found many lesions of that sort. Same while in Siberia in 1919-1920 in our Hospitals of American Red Cross in Irkutsk, especially. The diagnosis was made in every case with the help of x-rays, every individual case being studied separately and the patients were treated, except for some few periods, as hospital out-patients, or as private patients, if wounded were confined to bed certainly for a certain time. In private practice since then it was advisable not to depress the patient.

With the help of modern means of diagnosis

and proper examination of the supracardiac dullness x-ray examination gave different shadows in the case of lues or of simple dilatation of the aorta and aneurism. In nearly every case we could differentiate from that of the diffuse luetic type by Roentgen evidence alone, or if there was a combination of diseases present, we made the diagnosis without difficulty, and in time with the help of Wassermann test, proved beyond doubt that the lesion was simple dilatation, or arterio-sclerosis in old people.

In very large hearts there seems to be a relative enlargement of the aortic shadow, as Holmes states, but the difference in the haziness of the same or the comparative darkness has to be studied individually. The increase is frequently the result of lues, and we have to take the age of the patients in consideration, beside the fact, that the arch is divided by Gray into three parts, the ascending, the transverse, and the descending. We have to see the shadow fluoroscopically and observe, compare and see if the shadow becomes denser and more sharply defined, tracing the same or making teleoroentgenogram. The patient has to hop around on one leg, or lift heavy objects to observe the pulsation, sacculations and dilatation of the lesion with comparison of normal shadows. In some cases of arteriosclerosis the calcified portion of aorta may be seen especially in cases of long-continued high-blood-pressure, appearing as dark spots. If necessary these and others can be photographed directly on sensitive paper of special make, one large film antero-posterior being sufficient for study, if the aortic shadow is wider in cases of high diaphragm, or any complication in the chest, lungs, or mediastinitis, or possible tumors. In all those lesions the Roentgen findings are very characteristic. If the arch is wide, there is less overlapping of the ascending and descending aorta, and consequently the diameter of the shadow is increased. If luetic the shadows appear first above the aortic valves, the wall is weak and bulging of the area involved is plain, even when above the auricle.

When you find a marked prominence of the right border of the aortic shadow to the right it is a case of luetic aortitis, according to Ruggles, but in some cases the lesion may be seen by rotating your patient at the base of the aorta, even to the left with dilatation or sacculation.

*Dr. Jicinsky died, April 28, 1930.

The shadow may have a form of a cone towards the heart shadow and in advanced cases the dilatation may be general with weak heart and flabby. In other cases the aorta shows tortuous, definite and distinct sharp shadows in upper portion, which is about two inches in length, arising from the left third costal cartilage, behind the left ventricle, on level with the lower border of the third costal cartilage, behind the left edge of the sternum. It ascends obliquely upward to the right to the upper border of the right second costal-sternal articulation. A shadow in this portion has to be observed for position, the size, shape, the movements with respiration, the pulsations of the chambers and the change of shape which may occur with change in the position of the patient. The observations are done in antero-posterior and its lateral diameters and the exact shadows have to be noted, with proper examinations of the heart.

We have to study also the transverse portion at the border at the upper part of the right second sternal articulation, and arching to the left and forward in front of the shadow of trachea and esophagus to the left of the third dorsal vertebra, remembering that the descending portion extends downward to the left side of the fourth dorsal vertebra. The luetic shadow is even, just like simple haziness, and if dark shows beyond doubt a chronic lesion. If black and irregular we have to look for even malignant lesion, or if round for aneurysm. The size, position and location are seen on the paper, film or on the fluoroscopic screen. The observations could be made with the help of special hood of a fluoroscope even in the day-light. If the lesion occurs in the subclavian artery change the position of the patient in such a matter, that you look directly under the clavicle, observe the lung structure and all the peculiar or not normal shadows around. How to increase the pulsation we stated above and the outline of the lesion is defined. Occasionally we may see the shadow of normal aorta through the mediastinal tumor, see the displacement of the heart and make out with other modern ways of diagnosis an enlargement of the glands, even a malignant tumor. If there is any fluid present, the shadow becomes denser and more sharply defined and if encapsulated we have to differentiate the mediastinitis and a possible tumor. To read the

shadows properly on the screen and in the film or on the paper is the whole secret of the work. The aortitis is still very common and is generally recognized to be a syphilitic lesion, but in some cases we may make a mistake, especially when Wassermann is not made. The earlier the positive diagnosis is made the better results of treatment will be, but in practically no case should treatment be refused.

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HYPERTENSION AND THE HEART*

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Of recent years the role of hypertension as a cause of heart disease has been more definitely recognized and studied. We are all aware of the frequency of hypertension in our patients but many of us are not aware of the relation of hypertension to many of the heart cases we encounter. It is my purpose to stress this relationship and discuss the pathological, clinical and laboratory findings in the cases of so-called hypertension heart disease.

It is not within the scope of this paper to enter into the theories as to the causation of hypertension. When death occurs following a prolonged hypertension our first thought is the kidney: Is there a chronic interstitial nephritis? Often there is—but more often in the decompensated hearts following hypertension we find no nephritis, no syphilis, but diffuse arteriosclerosis, involving the arterioles of the entire body but especially of the kidney. This diffuse sclerosis of the small arteries is found after, and is probably due to, the prolonged hypertension. Vascular spasm, perhaps through improper vasomotor control, through the sympathetic nervous system, perhaps due to hyper-adrenalism, perhaps both factors, occurring in an individual with a definite family history of vascular disease, may account for the hypertension. Some authorities believe that the sclerosis precedes the hypertension. Others believe that vascular spasm of long duration causes the hypertension. Heredity seems a very definite factor. There is definite evidence that prolonged pressure in vessels leads to sclerosis. This is well illus-

*Read before Peoria Medical Society, Nov. 5, 1920.

trated by the finding of arteriosclerosis in the pulmonary artery in mitral stenosis with its obstruction to the blood flow and marked increases in the pressure in the pulmonary circuit and the pulmonary artery.

Thus the cause of hypertension is still a problem. We are interested tonight in its effect upon the heart, regardless of its cause, whether a chronic nephritis or a so-called "essential hypertension" due possibly to vascular spasm.

The left ventricle bears the load with the prolonged hypertension and of necessity increases in size of chamber and the muscular wall increases in thickness. The heart becomes larger with a "so-called" eccentric hypertrophy. The weight 400 to 750 grams contrasted with a normal weight of 250 grams. The muscle may appear normal macro or microscopically after death; although often there is evident fibrosis and at times large scars. The coronary vessels in a moderate percentage of cases show gross sclerotic changes. Coronary thrombosis occurs in a small percentage. The valve leaflets appear normal. The striking observation of the post mortem table is a cardiac death often with a huge heart, but with a normal heart muscle as judged by its macroscopic and microscopic appearance. Probably functional changes occur in the muscle of a metabolic and chemical nature which result in cessation of function without organic changes that we are able to recognize. Is it a death due to overwork and muscle fatigue?

From a clinical standpoint: Hypertension may persist from a few to twenty years with few symptoms but finally, if neither cerebral nor kidney complications develop, the heart symptoms appear.

1. Onset of cardiac symptoms is insidious.

2. Breathlessness and slight tachycardia are early manifestations of cardiac embarrassment. At this time the physical examination may reveal besides the hypertension, slight enlargement to the left, and accentuated second aortic sound. Occasional extrasystoles may occur.

3. Nocturnal dyspnea occurs later—the patient awakening with sudden severe dyspnea. Pulmonary edema may occur at this time with its frothy, pink sputum and crackling rales over the chest. The hypertension heart above all others produces this night picture.

4. Anginal attacks are not uncommon, vary-

ing from mild attacks upon exertion to severe attacks with death. Coronary thrombosis with its definite classical picture may occur. The anginal attacks may occur before evidence of decompensation and while the patient is still unaware of his affliction.

5. Frank pulmonary bleeding occurs at times, resembling a pulmonary T. B. We must remember the trouble is in the left ventricle, which fails first, with the right heart still competent. Pulmonary stasis results. The frank hemorrhages are probable due to vascular degeneration in the pulmonary vessels, combined with this stasis. Many writers have urged the importance of this symptom of bleeding in hypertension cases, either nasal, renal, pulmonary, or gastro-intestinal, as indicative of the more serious forms of hypertension.

6. Later the right heart fails and the typical picture of cardiac decompensation ensues, with congested liver, ascites and edema of body below the heart level. When first seen in this stage, we may fail to recognize the hypertension heart, for the blood pressure is often lower, reading 130 or 140, when formerly it was 200. However, it is a peculiar fact that often the blood pressure remains high, 200 and over to the end.

The physical examination reveals.

1. The hypertension, which may be slight or marked, depending upon presence or absence of decompensation.

2. The cardiac enlargement to the left, which is recognized by careful percussion of the left border, or by accurate palpation of the apex thrust. Frequently these individuals are obese and have large thick chests, rendering percussion difficult and inaccurate. In these cases a two meter heart film is advisable for accurate measurements of the heart and for study of heart configuration. In the advanced case the heart assumes a flattened appearance, the so-called "sock" shaped heart, resembling an ordinary man's sock with the small heel and the transversely flattened appearance.

3. Murmurs may be absent during the entire clinical course. This causes many errors in diagnosis, as the absence of murmurs leads many to believe the heart normal. Usually a relative mitral leak develops, due to the dilatation of the mitral ring by the enlarged left ventricle, or possibly due to the fact that the papillary muscles are too short to allow complete closure

of the mitral leaflets in such an enlarged ventricle.

4. This leak is manifest by a systolic blow at or near the apex. Usually it is very soft and may be scarcely audible. At other times it is very harsh. I believe the intensity of the murmurs to be of no prognostic importance.

Over the aortic area the second sound is accentuated. Rarely a diastolic murmur is heard, due to the aortic dilatation.

Various disturbances of rhythm occur. Extrasystoles are common. They are indicative of increased irritability of the ventricular muscle, but are not a serious prognostic sign, as they may occur over a period of years before cardiac failure. Auricular fibrillation is not common except in the senile cases. In fact I have been impressed by the regular rhythm (excepting the occasional extrasystoles) which often persists until death, especially in patients of the fourth and fifth decades. Incidentally, I might mention that this characteristic of regular rhythm is also noted in the badly decompensated syphilitic hearts, with aortic regurgitation.

Gallop rhythm frequently develops as cardiac failure becomes more evident. It indicates that the heart muscle is beginning to fail and makes the prognosis more serious. It is quite a constant finding in the decompensated hypertension heart, so much so that the finding of gallop rhythm in a decompensated heart suggests, first, the hypertension heart. With proper rest and care the gallop rhythm may disappear, to reappear again when decompensation recurs. The electrocardiogram is of great value in this type of heart. In the well compensated hypertension heart, it may appear normal. Usually there is definite left ventricular preponderance. In the more advanced cases with failing heart muscles the T wave in leads one and two is inverted. This sign indicates marked interference with the spread of the excitation impulse through the ventricles and usually warrants a prognosis of death within 12 to 18 months. In the cases with coronary sclerosis or marked fibrous changes in the myocardium, the QRS complex becomes widened and slurred. Thus the findings of a normal cardiogram of simple left ventricular preponderance with normal QRS and T waves, indicates a fair prognosis, while changes in the QRS and T waves warrant a grave prognosis.

To recapitulate: The diagnosis of hyperten-

sion heart is dependent upon some combination of the following findings:

1. Presence of hypertension, or history of previous hypertension.
2. Cardiac enlargement to the left.
3. The characteristic "sock" shaped x-ray shadows.
4. Systolic apical murmurs.
5. Gallop rhythm.
6. Electrocardiographic evidence of left ventricular preponderance, or inverted T wave in leads one and two.
7. Other evidence of vascular changes—as retinal arterio-sclerosis, or exudate.
8. Evidence of kidney damage as shown by fixation of specific gravity of urine, or retention of nonproteid Nitrogen in blood. However, the kidneys may show no clinical evident defect in the essential hypertension cases.

Prognosis in any individual case is difficult. We must remember that these patients usually have cerebral, and renal vascular sclerosis, and these may cause death before the heart fails. However, from a cardiac standpoint the grave prognostic signs are:

1. Nocturnal attacks, especially with hemorrhage, angina, or pulmonary edema.
2. Marked electrocardiographic changes in the QRS and T waves.
3. Congestive heart failure in spite of rest, restricted diet and digitalis.

Treatment: Much can be done to relieve suffering and prolong life in the heart burdened with hypertension. Prior to true decompensation every attempt should be made to relieve the hypertension as much as possible.

1. Calmness; It is vital to instill the spirit of calmness, to avoid emotional upsets, and worries, as much as possible. Bromides, luminal and mild hypnotics help to accomplish this. Enforce proper rest, working hours and sufficient sleep.

2. Hard physical work must be stopped.

3. *Salt.* I do not believe that the salt free diet is a "cure all." However, the elimination of salt undoubtedly helps many. Often these patients are great salt eaters, and the elimination of salt is followed by marked alleviation of many distressing symptoms. A recent case under observation confirmed my opinion of its value. A doctor, unaware of a hypertension, 58 years of age, used much salt on his food and had a

habit of drinking two or three glasses of beer before retiring, and to which he added an abundance of salt. He became ill, with nocturnal dyspnea, full pounding feeling in his head and nose bleed. His pressure was 220 systolic—160 diastolic, and his urine contained 2 plus albumin. After four days on a salt free diet without any other treatment, the patient refusing to discontinue his work, the blood pressure was 170 systolic—120 diastolic, and the symptoms had disappeared, including the albuminuria. Elimination of salt may not cure but the abuse of salt aggravates these cases.

Digitalis & Bed Rest: Digitalis is our mainstay when congestive failure occurs. When even moderate failure is present with tachycardia and dyspnea, digitalis is indicated. Give enough to completely digitalize and then continue a daily maintenance dose for months as needed, long periods of rest in bed regain the lost heart muscle tone.

If edema persists after digitalization and a fair period of bed rest, the edema and ascites respond well to diuretics.

Theocin is of some value.

Salyrgan 1 to 2 c.c. intravenously every fourth day, combined with ammonium chloride per mouth usually produces marked diureses. Being a mercury salt it should not be used in true chronic nephritides.

Failure to obtain improvement with bed rest, digitalis, and diuretics, with persistence of the edema, usually warrants a grave prognosis.

Many cases, after one attack of cardiac decompensation properly managed, may carry on for many months, and, occasionally, for years before decompensation recurs. Digitalis usually has to be continued during this interval.

Sudden attacks of heart failure with cyanosis or pulmonary edema warrant venesection, which relieves the pressure and takes some of the load from the left ventricle.

In conclusion:

The American Heart Association has urged the necessity of proper classification of the various types of heart disease, so that the natural history and clinical course of each type may be properly studied. This classification is based principally upon types as viewed from an etiological standpoint. The hypertension heart presents a definite type of heart which can be recognized clinically and which has a character-

istic natural history. Thorough study of this heart with a proper idea of the etiology, the structural changes, and the clinical history rewards us with more definite ideas as to prognosis and treatment.

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ARE CYCLOPLEGICS NECESSARY IN REFRACTION?

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Patients requiring refraction, constitute about four-fifths of the oculist's work. "The fact," Schwenk¹ says, "that so large a percentage of the oculist's practice is refraction, should convey to our minds that oculists must accept every opportunity to enable them to do better work."

To refract these patients and prescribe for them the correct lenses, is it absolutely necessary to use a cycloplegic, and if so in which cases is its use indicated and in what proportion of them must it be used? The old controversy that exists, even among ophthalmic surgeons themselves, as to the value of its use, gives the optician or non-medical men opportunity to condemn the use of cycloplegics in refractive work, and also at the same time gives them support in this view by the faction among the medical men opposing their use.

The optician, or non-medical refractionist is here, as pointed out by Lancaster² and must be taken into consideration.* A quite large percentage of refractions at the present time are being made by non-medical men, and while wholly commercial in attitude, nevertheless they are becoming more blatant and bold in their campaign for recognition.

As an illustration of the efforts on the part of these unqualified, but licensed men, the following headlines appeared in the daily newspapers in this city at a recent state meeting of "Optometrists." "Early attention is only hope in dread glaucoma," and goes on to state in the article that "Hardening of Eye Ball is sure to Bring on Blindness." The article itself was entitled, "What the Optometrist Should Know About

*A four year course in applied optics is now being given at the University of Illinois, by the University of Rochester and a four year course is given by the Los Angeles School of Optometry, part of which is accredited in the University of Southern California.

Glaucoma." Another paper given at this convention was "Procedure and Diagnosis in Color Fields." Every department store of any size, today has its optical department, advertising the free examinations given by licensed optometrists. The general public is unable, of itself, to differentiate between non-medical Doctors of so-called "Optometry," who occupy offices in the same buildings as do oculists, and frequently share reception rooms with graduates of medical colleges practicing general medicine. The Dr. on their door is the same to the patient seeking relief from eye troubles as the M. D. on the door that shows a qualified medical man engaged in the special branch of ophthalmology. To their credit, it can be said that a few of these "Optometrists" are in a manner quite well intentioned men of good reputation in the community; who, although misguided in thinking the optical business is a profession, attempt to practice along the same paths with qualified medical graduates.

"The general medical course (says Jackson³) should be taken by all who wish to treat the defects, diseases, and injuries of the eye. The eye is a part of the body, and lives, keeps health, and performs its functions through its connection with other parts of the body; suffers injury and disease from similar causes; and depends for restoration on the same vital processes. The attempt to create a profession of optometry, apart from medicine, has been as much a failure as attempts to manage disease of the eye without any knowledge of its special function. But to attempt to split off a small part of medicine and combine it with optical knowledge, to furnish cheap treatment for eye conditions, is certain to fail of any good service to the public. Ophthalmic practice is a department of the general healing art; and will always be best carried on by those who have secured a fundamental education in general medicine."

"States licensing a group of men called optometrists are acting unwisely in the matter of the brief incomplete examination as given this body of practitioners—not permitted to use cycloplegics, not trained in scientific ophthalmology, but quite sure that cycloplegics are an unnecessary hardship upon the patients—these optometrists are using every possible effort to propagate their creed." (Ring.)

That the use of the cycloplegic is unnecessary,

dangerous in some cases, and produces besides the inconvenience too long a period of inactivity from the patient's occupation is claimed by the opticians. Some ophthalmologists also believe its use is not necessary. Cycloplegia is used by 75 per cent of the oculists in this country in their cases. Some of the advantages to be derived from its use, are as follows:

1. In children its use is absolutely essential to do good refraction work, especially to be used in all cases of strabismus.

2. In cases of spasm of the accommodation, and where there is evidence of convergent excess.

3. In some cases its use demonstrates that there is no eye strain, and that glasses are unnecessary.

4. It reveals the total amount of error, the amount and axes of astigmatism while in some cases without its use the principal meridians cannot be determined, especially in young persons.

5. It enables us to estimate the refraction objectively by means of retinoscopy, allowing us to measure the static refraction, without which we could not be sure of the prescription for glasses.

6. Another valuable aid of cycloplegia to oculists is the complete fundus examination including the peripheral portion that can be made with the fully dilated pupil, and the minute study of the lens and other intra-ocular structures.

7. It may be used with advantage in patients even up to 50 years of age, if found necessary.

8. Cycloplegia is especially advantageous in cases of small errors where the manifest is very uncertain as to either sphere or cylinder, its use is indicated in patients over 40 years of age, where a small manifest error does not account for the symptoms that such a patient complains of, or where the refraction has been made before without a cycloplegic, and the patient still complains on use of the eyes.

Cycloplegics are not necessary in myopes nor in the great majority of presbyopes. Myopia of itself does not produce eye strain, but if there be astigmatism accompanying myopia, the latter may produce asthenopia. All patients, but especially those above 35 years of age, are cautioned to use eserine drops given them, until near vision is normal again.

About the only disadvantage that the use of

the cycloplegic has is the question of time that it takes a patient away from his work, and the inconvenience of blurring and photophobia which a mydriatic produces. Also there are some cases in which there will be a prolonged paretic action of the ciliary muscles. Several cases of paresis of the ciliary muscle for a period of several weeks have occurred among my patients, but eventually the accommodation became normal.

Mild constitutional symptoms with slight mental disturbances have been noted in a few instances, and dryness of the throat with flushing of the face occurred in cases where directions had not been followed to bring pressure over the canaliculi after installation of the cycloplegic, and the solution running into the nose and throat. These effects were all temporary and harmless, passing away in a few hours.

There have been some cases reported of increase of tension following the use of cycloplegics. None has ever occurred in my practice of 30 years. Of course, cycloplegics are not to be used in the very old, or in cases which would be liable to develop glaucoma. This type of case would be evidenced by a shallow anterior chamber and dilated pupils in patients without myopia. The tension of the eye is taken with the finger both before and after instilling a cycloplegic. In suspicious cases or in all those above 35 years of age, if the case is questionable the tonometer is used. The history of the case will also guard against the use of a cycloplegic in any suspicious case. It is true that cycloplegics are not always necessary, but with the majority of cases they are essential to success. In an asthenopic patient whose manifest correction produces normal vision, as a rule cycloplegics are not necessary; but in the whole number of cases that one sees cycloplegics substitute knowledge for guess work, and enable one to say whether, or not, eye strain produces the symptoms that the patient complains of. Some authorities believe reasonable accuracy can be found without cycloplegics, by means of fogging and analogous optical measures. These latter give some control of the accommodation, but in the greater majority of cases an oculist will fail if he lets the patient have a prescription for glasses without a cycloplegic being used.

The refracting optician doing his work without a cycloplegic may and often does give a con-

cave glass to a hyperope suffering from ciliary spasm.

Clarke⁵ has tested the eyes with and without a cycloplegic in a large number of patients. In some of the cases cycloplegics revealed nothing new, although a large number showed an important difference which would decide between success and failure in treatment. He further states, "That the physician who is called upon to treat a so-called 'functional nerve disorder,' and fails to eliminate the element of eye strain is derelict in his duty, both to himself and to his patients, for there is no functional trouble that may not be due to eye strain."

Wells⁶ found in 262 consecutive cases in which atropine or hom-atropine was used only 5 patients in whom the hypermetropia was less, or myopia more under cycloplegics than was manifested without drugs.

Decker⁷ says that the prime essential in the fitting of glasses is the measurement of the static refraction, and that this cannot be done accurately in quite a percentage of cases without cycloplegics. "It is possible," he says "to measure correctly the refractive error of a considerable portion of cases without paralyzing the accommodation, but it is the balance of the cases where its use is positively needed, that takes this work out of the realm of guesswork to that of certainty and aids towards scientific accuracy."

Pond⁸ states "that in 8,000 cases of his own, better results were obtained without than with a mydriatic, that refraction is not an exact science, and that the same patients will receive a different prescription for glasses and all good, at the hands of different expert refractors." However, we wonder how such an opinion can be expressed if cycloplegics were not used in the cases from which he draws his conclusions.

Knighton⁹ expressed the opinion that in the hands of good refractionist the majority of patients may be examined successfully without a cycloplegic, but there are certain cases which demand a knowledge of the total error such as, non-cooperative patients, and cases of strabismus and spasm of the accommodation. However, he qualifies his statement by declaring that retinoscopy is conceded to be the most accurate means of refraction in conjunction with cycloplegics, without which we cannot get the total amount of

error, and would therefore not be sure of our prescription for glasses.

T. Harrison Butler¹⁰ seldom uses a mydriatic and believes he gets considerable better results without its use.

Sterling¹¹ claims to have found as high a plus glass when the eyes were binocularly refracted, as with a cycloplegic; and then again has found the reverse—a higher amount of plus glass with a cycloplegic than when examined binocularly without it.

Burdon-Cooper¹² in a great number of cases tested by him with and without atropine finds that the total hypermetropia under atropine was less than the manifest hypermetropia without atropine when the eyes were tested binocularly. This amount varied from 1 quarter to 1 diopter. He claims that atropine causes a forward displacement of the lens system or in reality produces a relative myopia.

Griscom¹³ says that successful refraction is dependent not only on the thorough knowledge of physiology and optics, but also on the exercise of good judgment in determining the relative worth of each of the factors which make up a complete examination. Static refraction together with the use of the trial case, the examination of accommodation, extraocular muscles, the age, occupation, general health, and temperament, he says must all be considered before prescription for glasses is given.

In addition to the foregoing remarks it would be well also to ascertain a history, the past and present health, amount of ocular work and conditions under which it is done, a thorough routine examination of the globe and adnexa, determining the state and all the functions of its different parts. In asthenopia it is important to know whether the symptoms follow use of the eyes either at close work or following moving objects at a distance. Headaches from other causes should be eliminated and the fusion faculty ascertained. Dizziness as a symptom related to eye strain should be elicited if present. It is also important to ascertain if there be complaint of glare. In that connection, Redway¹⁴ recently has shown the importance of lenses incorporating color to properly filter any irritating light ray, and he remarks, "Since some lens must be worn to correct errors of refraction, it seems only common sense that that lens shall be utilized

which most closely approximates the requirements of the individual case. Modern industry is making such demands and is requiring such a high degree of visual acuity and sustained visual effort that any aid or assistance which can be afforded the human eye in the performance of work it was not primarily designed to do, is not to be overlooked. Micro-measurements are becoming every day more common, greater and greater accuracy is being required of the human eye. This is putting the responsibility squarely upon the oculist to obtain for those who consult him not alone a correct refraction, but also the highest possible visual acuity and efficiency." In persons with perfect vision and no symptoms of eye strain if ametropia be present even in small degree it is still good treatment to correct these errors. The strain, even though slight and with no symptoms, does use up, in these patients, a certain nervous energy in the use of the eyes and produces its deleterious effect on that patient's vitality.

MacCallan¹⁵ has observed pathological changes such as blepharitis, conjunctivitis, episcleritis, opacities in the lenses and vitreous, retinal changes such as hyperemia, effusion and degeneration at the macula and dacrocystitis—signs of focal infection—in an investigation among a hundred patients of the upper middle class who came only for correction of ametropia, and in whom the visual acuity after correction was 6/6 or 6/5. These ocular changes directed his attention to the need of further investigation, the object of which was to cure or check the ocular pathology. Further, in association with these ocular changes in the hundred patients with full normal vision after correction, were: teeth abscesses (apical), dental cyst, appendicitis, septic tonsils and suppurating antrum with teeth sepsis. The ages of these patients ranged up to 60 years. 52% were under the age of 40. He also found intraocular changes of lenticular opacities, macular hyperemia, macular degeneration, and vitreous opacities. In dealing with these patients, he says these cases were on the whole uncomplicated errors of refraction. Sight as a physical or mechanical factor of the patient's life could be adjusted so that the patient returned to normal, but if it alone was done, treatment was but palliative and ultimately the toxins produced by the bacteria would

destroy the compensation refraction, and if dental treatment was not pursued would eventuate in a serious pathological condition to the eye.

To the ophthalmic surgeon, he further states, is given when patients consult him for the first time, the opportunity to make a complete survey and discover through the examination of the eyes the presence of some focus of infection and of directing patients so that they might receive a thorough investigation. MacCallan brings out that the severe conditions mentioned in the paper pointed necessarily to the teeth—blepharitis, iritis, styes, and changes in the lens and vitreous—but the manifestations were the same whether the septic focus was in teeth, tonsils, large bowel or otherwise.

These observations by MacCallan are, of course, only the same observations that are seen by every practicing oculist and which if they are not discovered by the examiner are sure to bring about poor results in the physician's practice. This would in itself seem to be proof positive that proper examinations can only be made by medical examiners and would absolutely rule out for all time the question of opticians, optometrists and other non-qualified practitioners being in the least degree capable of an examination of the eye.

At once the observation is made that general disease can affect the action of the ciliary muscles, and cause many disorders of the eye and the vision thereof. Among these general diseases affecting the eye are: intestinal disease, vascular hyper-tension and arterio-sclerosis. Diabetes has an effect on the ciliary muscles and accommodation; diphtheria, also and other toxic agents, such as nicotin. Also can be mentioned nasal sinus disease, dental and tonsil disease and trauma. Changes of accommodation appear in the prodromal stage of glaucoma. Syphilis causes paralysis of the iris and ciliary muscles and paresis of this muscle often points the way to the detection of serious involvement of the central nervous system.

Jackson says, "That oculists have been disposed to admit that opticians might be allowed to give glasses to presbyopes. Even in these cases experience shows that to abandon these patients when diminished accommodation makes slight errors of refraction and inaccurate correc-

tions still more important, is shirking a responsibility in those claiming fitness for practice of a learned profession."

Seeking to learn just what degree of service the patient can expect from a refracting optician, I have tabulated the findings in my last 100 consecutive cases, as to the accuracy of the prescription for glasses, that would result from refracting patients without a cycloplegic, and then after paralyzing the accommodation, comparing the results that followed. Out of the 100 patients there were 29 cases that could, in all fairness, have been fitted correctly without its use, and as good a prescription obtained as with its use, because the difference in the degree of the refractive error or in the axes of the astigmatism was of no consequence. To obtain these results without cycloplegics there must of necessity be intelligent cooperation on the part of the patient. The balance of the cases would certainly not redound to the credit of anyone doing good refraction, much less to the reputation of a man who possesses a medical degree, in fact would constitute work of a very questionable character.

The ages of these patients ranged from 9 years, the youngest, to 49 the oldest. Seventeen patients were from 9 years to 20 years of age. Twenty-six from 20 to 30 years. Thirty-nine from 30 to 40 years, and eighteen from 40 to 49 years. Especially would I mention that refracting children without cycloplegics would be the merest guess work for no one could be certain of any finding made subjectively in any of these patients. Likewise in cases of strabismus and ciliary spasm.

Refraction of these 100 patients showed the following:

Hyperopia	34 times
Simple Hyperopic Astigmatism.....	19 times
Compound Hyperopic Astigmatism.....	35 times
Myopia	8 times
Simple Myopic Astigmatism.....	9 times
Compound Myopic Astigmatism.....	12 times
Mixed Astigmatism	9 times
Hyperphoria	12 cases

One patient was not given glasses—emmetropia being present. In two cases the amount of hyperopia found by the manifest examination exceeded that found under a cycloplegic. There were found 2 cases of lateral muscle imbalance requiring prisms. Diplopia was elicited in nearly half the patients. Homonymous and crossed diplopia were found in about the same proportion of individuals, the former in 16%,

the latter in 20%. Vertical diplopia was present in eight per cent. of the cases. Among the patients showing diplopia there were fifteen per cent. of these in whom, in addition, a hyperphoria was present.

The reason for the wide-spread view of the general medical men, especially in the smaller communities that opticians and other non-medical men can refract perfectly well is because they themselves have, in a few instances, been fitted satisfactorily by these non-medical men and having had their own personal symptoms relieved and in some instances satisfactory glasses for vision, they do not distinguish between the patients suffering from ciliary spasm and other errors requiring the use of cycloplegics, who have failed to receive relief from the services given by opticians. These general medical practitioners as a rule refer their patients to some advertising non-medical man in their community for the reason already stated, that they go to them for their own optical service, but mainly that if the community be small there is no medical man to whom they could refer their patients and the inconvenience and expense of a trip to a larger center where a qualified medical service could be obtained, appeals neither to the patient nor the Doctor nor does the necessity of such services seem apparent. Thus does the optician or non-medical man even in quite large communities (Towns of 100,000 and above) do the bulk of the refraction work good or bad, mostly of the latter kind. The internist and the higher grade medical man in the larger centers are aware of the results obtained by eye examinations made by medical men, and regularly refer their patients for refraction to competent eye specialists.

A former Chairman of the Section of Ophthalmology of the American Medical Association has stated that both opticians and eye physicians are necessities, and the number of competent eye physicians is hopelessly insufficient for the exclusive care of the ocular needs of the public.

That statement is questionable, as it implies that the opticians or non-medical men are necessary in looking after the welfare of persons needing examinations of the eyes for glasses. "It is not to be expected (Mayer)¹⁶ that the non-medical spectacle selling eye examiners will set up for themselves a process of education which will

be sufficient, or in scope comparable, to the training of physicians, or that this schooling would furnish these men qualifications to be acceptable as a branch or part of medical practice." This supposition has never yet been accomplished, is hopeless at the present time, and is not to be expected even in the future.

Ophthalmic literature is read only by those interested in ophthalmological subjects and the same is true of papers read at ophthalmological meetings. Men in general practice cannot be reached by articles appearing in *Journals of Ophthalmology*, as these men are not subscribers to these journals. They may see the headlines on ophthalmic subjects in general medical literature, but the title would be as far as they would read. A few can be reached by papers read by oculists at city and county meetings and a small minority read some of the reprints on ophthalmic subjects sent to them through the mails. Therefore, solution of the problem of the refracting optician lies entirely in the education of our students in medical schools. From this source must come the knowledge of just what these spectacle vendors mean to the patients of graduate physicians. The general medical men already in practice must be educated along these lines so that they can explain to the public at large, the necessity and importance of securing the best medical eye service obtainable, and they themselves become convinced that examination of eyes and the fitting of glasses deserves the most careful consideration and judgment of the highest trained medical minds. Again the general medical man must be taught that his own personal eye examinations and those of his family had better be made by a competent medical man doing eye work, rather than leaving them, as perhaps 50% of the medical profession are doing, in the hands of partly trained opticians, entirely lacking any medical knowledge whatsoever.

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COLDS, COMPLICATIONS AND SEQUELAE*

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This paper is presented because there appears to be a need for co-ordination of our knowledge of infections in the upper respiratory tract hastening Utopia whereby we make better use of the mass of useful information already in our possession.

Substantiation of this conclusion is reached after examination of great numbers of case records to note the really large percentage of head colds, the ear, mastoid and sinus complications, the occasional bad heart, the overwhelming array of cases of chronic progressive deafness, and the rather modest results often obtained in treatment together with the discouraging lack of success in immunization.

In addressing a group of physicians there will appear many statements which seem self evident and require little or no comment, therefore, I shall take advantage of this time-saving method to refer very briefly to a number of papers, addresses and reports each one covering a small part of this subject in an exhaustive manner.

Walter A. Wells writes, "It is regrettable that so little serious attention has been devoted by the profession to the conquest of this universal plague which lies at the root of so much morbidity and whose ravages cause such widespread suffering, not to mention the enormous economic waste resulting."

Frederick T. Hill says, "The acute head cold

seems to be the greatest menace and presents the greatest problem."

From the lay point of view two ideas are frequently voiced, first, we hear, "A cold is not serious and will get well unaided," and second, "The Doctor doesn't succeed in doing much for a cold."

Of course, these two ideas are mistaken and unmerited, but however erroneous they are, they are wide spread and persistent, so that perhaps our greatest and most fruitful field of endeavor would be lay-education. However necessary it is for its own welfare to maintain in the general public a standard of intelligence and information of high degree, our first endeavor must be self improvement; moreover when we demonstrate an ability and success of unquestioned superiority there will remain but little lay educating to do.

In my experience quarantine has not been wholly successful in preventing others from the contagion of colds, but however meager its success, it is worthy of use.

Doctors Harold Abramson and Louis H. Barenberg in the service of Dr. A. F. Hess have utilized control of contact infection in an elaborate manner. Their plan was most carefully thought out and most thoroughly carried through and then faithfully reported. One ward was set aside for the test, with another ward used for a control, the utmost care being exercised to exclude all infection. Doctors Abramson and Barenberg report a reduction in the spread of respiratory infections of ten per cent. Previous to this report these same men had attempted to prevent the occurrence of head colds in well children by administration of vitamins, "but with indifferent success." They also had used the mercury vapor lamp and carbon arc lamp reporting the results unsatisfactory.

By means of diet Amy Daniels has reduced the incidence of colds in children to a remarkable extent. Furthermore in the care of serious and chronic infections (but in connection with proper rhinologic procedures) diet has quite definitely shortened convalescence. It is worthy of note, however, that the identical diet used in the same class of cases, but without the rhinologic treatment, was of no avail.

Doctor L. W. Dean writes, "In the treatment of sinus infection a diet rich in vitamin A to-

*Read before Section on Eye, Ear, Nose, Throat, Illinois State Medical Meeting, May 20, 1930.

gether with an increase in vitamin B is very essential. It, however, does not take the place of either the proper laryngologic procedures or the observance of the usual hygienic regulations. The latter two things are equally important."

Doctor Roy A. Barlow and Doctor R. Adams Dutcher conclude that "The practical application of this work then would point to the administration of fats in any form and plenty of water or fluids for patients suffering from a respiratory infection, or for a well balanced prophylactic diet. This, after all, only substantiates a time honored form of therapy in the face of such findings."

Doctor Barlow writes further, "In conclusion I would say that so far nothing definite can be claimed as to the effect of diet upon the respiratory lymphatic changes, except possibly vitamin A, and it is difficult to say how much of the lymphatic enlargement is due to vitamin A deficiency and how much to secondary infection."

In the face of this seemingly gloomy outlook is there something to present of a more cheerful nature? Most certainly there is, for when correlated these reports are extremely valuable. But first let me shift the inquiry to a study of the patient with the questions: why and when does he "take cold," what conditions reside in him to invite colds, what environment guards or what threatens his health?

There are then two kinds of causes of colds, and in order that the cold be "caught" it is necessary that one active and at least one predisposing cause be operative at the same moment. The two active or inciting causes are, first atmospheric conditions and, second micro-organisms and they are equal in importance. It is extremely important that we clearly comprehend these two active causes and also our limitation in controlling them. Atmospheric conditions may be only partially modified and infections can not always be excluded.

The predisposing causes are frequently found in the nose and throat, but heart, kidney and skin lesions require mention. In children adenoids constitute the chief predisposing cause while subacute sinus and tonsil inflammation top the list for adults. Deflected septums, enlarged turbinates, improper dress, too dry or dusty air, over loaded digestive system, etc., each may predispose. Each patient has his own particular

group of causative agents or conditions and can be wisely advised only after individual study.

I place less and less confidence in the general health rules offered to the public. What so frequently happens is, that the patient is impressed only by certain parts of the advice so presented, which appeal to him, and which he has already been following and which in his case have little bearing on the condition, while other factors, the real culprits, are ignored.

Time prohibits more than a brief suggestion—take the simple question of cold air. The admonition "get plenty of fresh air" is regularly added to every newspaper article dealing with health. Now fresh air and cold air are synonymous in the minds of most people, hence sick or well they believe they are heeding sound advice by sleeping in a gale of cold air, whereas quite the reverse may be true. Cold air is seriously harmful to sinus and head-cold-cases. Air below the temperature of 55 or 60 Fahrenheit in the sleeping quarters of a patient suffering from an acute rhinitis or sinusitis is positively contra indicated.

In reference to nasal predisposing cases radical surgery is required at times but frequently is unwise and unnecessary. A sinus will often become normal if drainage and ventilation is provided. Each case is a law unto itself. I hold no brief either for or against nasal surgery, it is no panacea but it is effective when wisely selected. A degree of moderation must be one thread which runs unbroken through the entire fabric of our plans and advice.

J. I. Dowling by demonstrating his nasal pack, has provided one of the most efficient weapons in combating nasal infections. Solutions of colloidal silver poured into the nose produce scarcely enough benefit to compensate for the muss they cause, but used as Dowling suggested they are therapeutically active and sometimes to an astonishing degree. Whatever procedure is required, the predisposing causes must be sought out and removed or controlled before any degree of immunity may be secured.

The reason for this is readily understood when we consider that atmospheric conditions are largely outside our control and as Doctors Abramson and Barenberg have pointed out control of contact infection is only partially successful, so that our best point of attack is to remove

the predisposing causes. I recognize that in some cases predisposing conditions are incurable but in many more they are curable if they can be found. This is the task which challenges the physician's best efforts.

All this is very much worth while not because we must needs prevent a few colds but because a few neglected colds produce chronic pathology which in turn invites many head colds and much serious pathology threatening function and life itself. I earnestly desire to stress the fact that common colds and other infections in this region yield to treatment so that the severity is lessened and convalescence shortened and in addition to this and which is perhaps of greater importance, less permanent pathology results.

On the positive side of immunization much should be said but the review nature of this paper prohibits any exhaustive exposition, however one phase must not pass by unnoticed. Much too little attention has been given to that process of hardening which includes the frequent exposure of the body to sun, air and to cool and then cold water.

The close reflex connection between the skin of the body and the nasal turbinates is too little understood and utilized. Through this relationship a hardening or immunization program can be instituted, using graduated and controlled doses of cool-water-bathing. This hardening process is not for the sick, it is for the well man only. The predisposing causes of colds must first be removed before such a program can be effective and it should be discontinued during any acute infection.

It would serve my purpose most admirably were it possible to quote at great length from "The Common Head Cold" by Walter A. Wells, M. D. "If we constantly evade asperities of the weather we shall not be able ever to resist them, but if we expose ourselves in a reasonable way, we increase our powers of endurance and make ourselves gradually less susceptible to their harmful effects.

"There is a good reason indeed to accept the view of Huntington that no nation has ever risen to greatness except in a climate marked by storms, and sudden variations in temperature and humidity, not only from season to season, but also from day to day. There are, however,

limitations beyond which the individual may not be exposed without harmful results."

SUMMARY

Infections in the upper respiratory tract constitute a serious menace to the health and the life both of adults and children, and are accompanied by enormous economic loss.

All study of the subject, its prevention, cause, and cure, based upon a bacterial conception, rests upon a half truth only. Atmospheric conditions should receive equal consideration with micro-organisms as inciting agents both of which are but partially under our control. Predisposing causes, which are ever present, must and usually can be successfully controlled. These causes suggest an excellent mode of attack, but they can be discovered and appreciated only through individual study.

The keynote to a successful immunization plan is that intimate relationship between the peripheral circulation in the nose and in the skin so that resistance to colds in well individuals can be developed by the judicious use of pure air, sunlight and cool-water-bathing.

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DISCUSSION

Dr. Frank Novak, Chicago: Mr. Chairman and Gentlemen: I wish to congratulate Dr. Conger on the presentation of his paper. It has been said that the singing by an operatic star of the first magnitude of a simple song such as "Home, Sweet Home" or "The Last Rose of Summer" is the last and most difficult test of the artist's technic, and I believe that the reading of a paper by a noted laryngologist on a head cold is a test of a similar character.

After all, we know very little more about the therapeutics of a head cold than we knew fifty years ago, yet I believe there is a light on the horizon. The early bacteriologists after Pasteur said and believed

firmlly that the future physician will be an immunologist, and I believe the solution of the problem of the ordinary head cold is in the field of immunology. Last year at the meeting of the Academy I presented the work, the theory of immunity of Besredka of the Pasteur Institute. This theory of his and the work that has been done in this country are apparently pretty much unknown, and yet they are engaging the attention of some of the leaders in immunology all over the world.

Professor Cannon at the University of Chicago is subjecting this particular work to tests for corroboration and his results are extremely interesting. I believe there is a fruitful field for the otolaryngologist in the management and study of the head cold in the work done by Besredka on local tissue immunity. This is a radical and a revolutionary change in our ideas of immunity. It discards the question of immune bodies altogether; he says they play no role in immunity, they are accidental appearances in the blood stream and in the tissues, but it is impossible at this time within the few minutes allowed for a discussion, to go into it. However, I would recommend that any of you gentlemen who have not read Besredka's monograph, which was translated from the French, on local tissue immunity, should read it, because I believe it is the answer and will be the answer to much of the question of infection about the head and neck with which we are concerned.

Dr. G. P. Conger, Oak Park: In the atmosphere which we are now enjoying it would be best to make my discussion rather brief.

We do not know enough about it, it is true, and I shall not try to discuss it much further, other than to express my appreciation of those who have discussed this paper.

I was extremely glad that Dr. Novak mentioned the local tissue immunity.

As to diagnosis, Dr. Beck, the time prohibits. So far as respiration through a tracheotomy tube is concerned, perhaps the filter which is usually used over that opening made into the respiratory apparatus may be more efficient in ruling out and in preventing infection than the natural filter of the nose. I have had no experience with the non-specific protein therapy and I had hoped very much that that might be brought up in this discussion.

I feel one thing: As Lincoln said, "The world will little note nor long remember what we say here today," but it is extremely important what you go home and do. After you study the question of the care of colds and if you are interested enough in it to try to decide that the way you have is or is not quite satisfactory, or that some other way can be an improvement, and then get down and really study the subject, it is of a great deal of use that such a paper was read.

THE TERMINAL BOWEL AND SYSTEMIC DISORDERS

WILLIAM A. HINCKLE, M. D.
PEORIA, ILLINOIS

There are three principal ways in which pathology of the terminal bowel may be responsible for disorders in remote parts of the body; viz: 1. as a focus of infection; 2. as a source of toxic absorption; 3. as a center of reflex irritation.

We do not question that an apical abscess no larger than the point of a lead pencil may lead to serious consequences. We do not doubt that an infected tonsil no larger than the end of one thumb may be responsible for chronic invalidism. We are not surprised when we find that from the 5 to 10 square inches of mucosa lining a gall-bladder may be absorbed sufficient infectious and toxic material to produce not only distressing functional disorders but serious organic diseases.

All up-to-date physicians now recognize and look for these and other foci. But from some unaccountable reason most of us forget or neglect to examine the terminal bowel as a possible source of such infection. In the human sewer are countless millions of bacteria and an immense amount of toxins which constantly bathe its 200 to 400 square inches of mucous surface. This protective lining is continually subject to traumatic and chemical irritation, which tends to break down nature's defenses and opens a fertile field for infections.

Fistulous tracts, fissures, infected crypts, eroded and ulcerated hemorrhoids may be the nidus responsible for many remote conditions. More prevalent and provocative than any of these, however, is the low grade chronic inflammation of the mucosa of the terminal bowel known as proctocolitis. The more general use of the proctoscope and sigmoidoscope have shown these conditions to be of much more frequent occurrence than was formerly supposed.

That infections do originate in the terminal bowel is evidenced by the large number of conditions in which the bacillus coli is found, such as pyelitis, cystitis, cholecystitis, peritonitis, arthritis, ischio-rectal abscesses, etc. While diseased conditions in which this bacillus is found always have their foci in the intestinal tract, there are numerous other infections which may arise here. Streptococci, staphylococci, the ba-

cillus of Welch and numerous other pathogenic micro-organisms grow here in profusion. From here they may be carried to any part of the body.

But it is not alone as a focus of infection that the terminal bowel is responsible for systemic disturbances. Toxic absorption will account for many disabilities even where no infectious organisms have penetrated the mucosa and entered the blood streams or lymphatics.

It is a well known fact that enough toxins are constantly present in the colon to speedily kill the host, if their absorption were not prevented or limited by the defensive powers of the intestinal mucosa. It is also a well known fact that such absorption is greater when the normal elimination of the fecal matter is interfered with as in intestinal stasis. Such absorption is also much greater when the normal defensive powers of the intestinal mucosa is lessened in inflammatory conditions such as enteritis and proctocolitis. Many attacks of headache, migraine, tonsillitis, biliousness, indigestion, and even pulmonary disorders and skin lesions can be traced to toxic absorption from the bowel.

Even laymen recognize the desirability of free and regular evacuations and know the deleterious results that may follow when such evacuations do not occur and toxic absorption results.

Aside from being a focus of infection and a source of toxic absorption, there is a third manner in which the terminal bowel may act as a cause of disease. The abundant nerve supply of the anal canal and its contiguous tissues makes this area a prolific source of reflex irritation. Here the cerebrospinal and sympathetic nerves communicate as nowhere else in the body. Here, as nowhere else, nerve irritation may reflexly affect distant organs and tissues.

Fissures, fistula, cryptitis, and other irritated conditions, especially in the lower rectum and anal canal are often responsible for constipation, spastic colon, abdominal distress, indigestion, backache, sciatica, leg pains, coccygalgia, neuritis, nervousness, headache, and a host of related conditions.

Even when the primary cause of physical disorders are to be found elsewhere in the body, foci of infection, toxic absorption or reflex irritation in the terminal bowel may be the last straw that breaks the camel's back. They may

be the overload that breaks down nature's defenses and permits the other deleterious causes to become effective. In fact, there is hardly a disease, either acute or chronic, that may not be caused or aggravated by trouble in the terminal bowel.

Most of us, I think, lay little stress on case histories, so I shall report briefly only three which illustrate the far-reaching influence of lesions in the terminal bowel.

Mrs. S., aged 44, came complaining of severe pain during and after defecation of some months standing. She also had severe headaches daily. Examination disclosed a large fissure, and an inflamed sentinel pile together with a spastic sphincter. The sphincter was divulsed and the pile removed in the office. Within 24 hours her rectal pain and headache disappeared. These head pains were doubtless reflex in origin. Had they been due to toxic absorption they would not have ceased till sufficient time had elapsed for elimination.

Mrs. C., aged 56, General health good except for a chronic arthritis which has bothered her for some years, and a blood pressure which stayed around 200. She was badly constipated; had had no bowel movement in 7 years without physic or enema. Her stools were always small. She had a sensation of obstruction when trying to defecate. No history of tumor protrusion. For some months had had dull ache in region of coccyx extending down thighs; also much occipital headaches with dizziness. Examination showed a sphincter so tight that it would not admit the index finger. The blood pressure was 205-130. Carmine by mouth appeared in the stool in 24 hours and did not disappear for 5 days. Under local anesthesia the sphincter was divulsed. This disclosed two inflamed papillae and much looseness of the rectal mucosa. The papillae were removed. Later the relaxed mucosa was treated by submucous injections. Five days after the first treatment the patient told me her bowels were moving daily and the sensation of obstruction was gone. Her blood pressure was 160-100. Three weeks later she volunteered the information that her rheumatism was much better. Six months later her blood pressure was 150-100. In this case the coccygalgia and constipation were doubtless due to the spastic sphincter; the high blood pressure to toxic absorption. The toxemia also aggravated her arthritis.

Mrs. F., aged 48, General health good till about seven years ago when the death of a son was followed by a nervous breakdown from which she had not recovered. The patient was easily exhausted and unable to take care of her domestic and social duties. She had not been down town for several years because she could not stand crowds. In fact, she was a typical neurasthenic. She had been almost continually under the care of competent physicians who had done most everything except to make a thorough examination and appraisal of her rectum and anus. I was consulted because the

patient was constipated, had mucus in her stools and had some discomfort on defecation.

An examination showed two inflamed skin tabs, a small fissure posteriorly, two non-prolapsing internal hemorrhoids and some proctocolitis. The sphincter was spastic and sensitive. The skin tabs were removed and the fissure taken care of. Later the hemorrhoids were cured by submucous injections. This was followed by regulation of her diet and indicated medication. Her improvement was slow but positive. In four months she was attending to her social and domestic duties and coming down town at will. She has since taken several long auto trips without any unusual results. In this case, anal irritation and toxic absorption had made a chronic invalid of the patient.

Lest we forget, let me again emphasize that in our search for foci of infection, toxic absorption, and reflex irritation, we should not overlook the terminal bowel which is one of the most fertile fields.

701-2-3 Jefferson Building.

THE PENNSYLVANIA HOSPITAL ANNOUNCES THE OPENING OF AN INSTITUTE FOR MENTAL HYGIENE—AN EXPERIMENT IN MEDICAL ECONOMICS IS ALSO PLANNED

The Pennsylvania Hospital announces the opening of its Institute for Mental Hygiene and asks your co-operation, especially for two ventures—one in finding a new type of medical patient and the other in finding a fair rate of charges for patients of moderate means. These ventures cannot succeed without the help of the leaders in medicine in this community.

The Institute is planned for patients who will meet the physicians more than half-way in recognizing that they need help—for fatigue, worries, fears, maladjustments, difficulties in getting on with other people or at their work. The services are for both out-patients and resident patients. There are private accommodations of any type desired for those who remain at the Institute for extensive diagnostic service and treatment. Mental factors as well as physical will be sought out and treated. Classes in occupational and physical therapy, music, and recreation can be used by out-patients or by the patients of any member of a County Medical Society who wishes to make arrangements for them with the occupational or physical director. Children will be received in the out-patient department and in the Franklin School for problem children. The Institute is not licensed and cannot receive any committed patient. It will be greatly interested in toxic mental disturbances and in problems of general convalescence.

An experiment in medical economics is also planned. It is believed that many patients are now hiding their troubles from physicians because they dread unknown changes on one hand and free clinics on the other. The Institute will try to furnish an actual cost-of-care service designed to give people of moderate means every

essential of good treatment, including privacy and choice of physician, but with no element of charity. Its experience with such patients it will at once give to physicians in private practice in the hope that a new group will come to physicians' offices for help. Private full rate patients will also be received, and the Institute will be ready to help suitable low rate and free patients.

Patients may be referred for supervision and treatment or for consultation only. When patients are referred for treatment, the Institute invites the physician to act as consultant.

CONTROL OF BARBITAL ANESTHESIA AND POISONING BY DIURESIS

While using barbitalized dogs in some work on hyperglycemia, Carl A. Johnson, Arno B. Luckhardt and J. A. Lighthill, Chicago (*Journal A. M. A.*, Aug. 23 1930), were struck by the apparent rapid recovery of these animals as compared with others not receiving large quantities of dextrose solution. This led to the use of diuretic measures in one clinical case of attempted suicide with barbital, and to the experimental work reported. A typical experiment consisted of a control experiment in which the recovery time was determined following the intravenous injection of 225 mg. of soluble barbital per kilogram. After an interval of from ten to twenty-four days the same dose of soluble barbital was given to the same dog and this was followed in one or two hours by 1 liter of 10 per cent dextrose solution given intravenously and the recovery time was noted. After another interval of from ten to twenty-four days a second control experiment similar to the first was performed in which soluble barbital was given without a subsequent intravenous injection of dextrose. Those dogs receiving 1 liter of 10 per cent dextrose solution following the barbital injection, the recovery time was reduced, in most dogs, to less than one-half. Gover and Tatum suggested that on the basis of the excretion of barbital in the urine, the most rational means of treatment of acute barbital poisoning is to maintain optimum renal function. The authors feel that their experimental work supplies proof for the usefulness of this method treatment in cases of poisoning with barbital and other barbituric acid compounds.

NEED FOR ORGANIZATION IN THE MEDICAL PROFESSION*

"Those who have the public health in view and want to succeed in this contest will have to make a more vigorous fight. They must organize to educate the people and to inform legislators. They must spend their time and money more freely in presenting the public's cause to the legislatures of the country, and, indeed, to the courts, too, which also require ample arguments on the cases before them. The persistent, the vigilant, the crusading men win. It is unfortunate that truth has to be thus enforced, and that it is not self-evident. But error propagated by money, enthusiasm and

a not too scrupulous regard for facts often—in some fields generally—overcomes truth, which thus crushed to earth only after a long period of time will rise again. Those who would give the public better laws, if they would succeed, must not be content with merely stating their case scholastically; they must organize to propagate it and then enforce it and compel attention to it by the practical methods everywhere influential with men, not only today but tomorrow and year after year, until the truth is permanently embodied in the law as the settled policy of the state.”

*Harry Eugene Kelly, in *Journal* of the American Medical Association, Aug. 17, 1929.

Society Proceedings

ADAMS COUNTY

The regular monthly meeting of the Society was held in the Elks' Club Hall on Monday, September 15. The meeting was called to order by the president at 8:20 P. M., with twenty-five in attendance.

In the absence of the essayist, a motion was made that the business meeting be taken up first. Carried.

Business Meeting

The secretary made a motion that the minutes of the Council and Medical Society meetings that have been published in the bulletin for June, July, August and September, be approved as published. Carried. The secretary then read the minutes of the September meeting of the Council. These were approved as read.

A letter received from the Standard Review Club of Quincy was read and a motion carried that this letter be referred to the public health committee for subsequent report to the Society.

The application of Dr. T. J. Merar for membership in the Society was read and turned over to the board of censors for report.

The secretary asked if there were any suggestions in regard to the all-day meeting to be held in November but none were offered.

A letter from the Muscatine County Medical Society of Iowa was read relative to securing information against Station KTNT.

Dr. Knox introduced the following resolution and moved that it be adopted and a copy of same be sent to the national headquarters of the American Red Cross Society. This was seconded by Dr. Center and after considerable discussion the motion was carried.

WHEREAS, At the April, 1930, meeting of the Adams County Medical Society a resolution was passed to this effect that before any member of this Society accepted an appointment with any lay organization, for any so-called health movement, that before such appointment could be accepted by any member of this society, said acceptance should have the approval of this society, and

WHEREAS, It has recently come to our observation

that the American Red Cross Society has opened so-called first aid stations at certain points on the routes of our hard road, and whereas several of the members of this society have cooperated with and accepted appointments with this organization to serve at these stations as the need arises; therefore, be it

Resolved, That these members be requested to withdraw their support from all of these so-called organizations, serving for the benefit of "suffering humanity" until this society has given its approval and

WHEREAS, In the event that these members continue to serve these organizations that they be asked to withdraw from the society.

A motion was carried that the secretary be instructed to notify the members of the Society who had accepted appointments from the American Red Cross Society and who were effected by this resolution.

Scientific Meeting

Dr. Frank Cohen read a paper on the "Diagnosis of Allergy" which was discussed by Drs. Stevenson, Knox and Center and finally closed by Dr. Cohen.

The secretary made an announcement relative to the October meeting and also stated that more material was needed for the Bulletin.

The meeting adjourned at 9:45 P. M.

HAROLD SWANBERG, Secretary.

ALEXANDER COUNTY

The Alexander County Medical Society opened its fall activities with a dinner meeting at the Halliday Hotel, Cairo, on the evening of September 19. Invitations to the meeting had been sent to the physicians in the surrounding territory, and there were nineteen visitors present.

Dr. Alexander Brunschwig, of the Department of Surgery, Medical School of Chicago University, was the principal speaker at the scientific program following the dinner. He gave a very fine illustrated lecture on the subject, "Some Rare Diseases of the Epiphyses of the Bones of the Extremities." This lecture, for the most part, covered the results of original investigations made by him and his collaborators during the last three years. It was very instructive.

The secretary of the Society announced that the program for the October meeting would be a paper on a timely subject by Dr. Jas. S. Johnson, of Cairo, a member of the Society; also that Dr. Leslie Wallace, of Thebes, Ill., also a member, would present a paper at the November session on "Coronary Thrombosis." The December meeting will be a business session for the election of officers, followed by the annual banquet.

JAS. W. DUNN, Secretary.

SCHUYLER COUNTY

The Schuyler County Medical Society held their third annual fall meeting Thursday evening, September 4, at Rushville, Scripps Park. There was an attendance of about two hundred.

This has proved to be one of the most successful

points for a get-together meeting anywhere downstate. There is much said, pro and con, about the inability of the small county medical society to function, and the difficulty to have a program. This is certainly disproven by this small society of about seven or eight members. Men of the ability to have a meeting with 200 present, certainly have the ability to arrange programs among themselves and adjoining county societies, monthly during the year. This is a splendid example of what can be accomplished by a small county medical society. It affords the members of the Illinois Medical Society for a radius of 100 miles on both sides of the Illinois River, the opportunity to get together and become acquainted. It is certainly inspirational to every member of a small county medical society.

The president of Schuyler County Medical Society, Dr. C. M. Fleming, and the secretary, Dr. H. O. Munson, with other members, and their wives, deserve much credit for their ability to entertain this large number of physicians with such a splendid dinner and program.

In the absence of Dr. Chas. D. Center, councilor for the sixth district, who was to preside as toastmaster, this honor was given to Dr. Andy Hall, director of the State Department of Public Health.

The program was as follows:

Problems in Connection with Fracture of the Neck of Femur—Dr. Kellogg Speed, Associate Professor of Surgery, University of Illinois, Chicago, Illinois.

Discussion—Dr. Herman W. Wellmerling, Sloan Clinic, Bloomington, Illinois.

Everyday Anemias—Their Significance and Management by the General Practitioner—Dr. Charles Spencer Williamson, Professor of Medicine, University of Illinois, Chicago, Illinois.

Discussion—Dr. George Parker, Internist, Peoria, Illinois.

A Pen Picture of the Country Doctor—Dr. R. F. Lischer, Mascoutah, Illinois.

Dr. Speed made the point of length of time for permanent results, a correct diagnosis, with frequent x-ray observations, as necessary factors in securing good results. His ripe experience made his talk especially practical and interesting.

Dr. Williamson made his subject a very new one by telling of the research work carried on in his Department of Medicine at the University of Illinois, to show the iron reserves in certain organs of the body, and the influence of diet in the maintenance of these reserves. Those discussing the program added much to the interest and understanding of the papers.

Dr. Lischer, in his portrayal of the country doctor, describes his many amusing experiences, as well as his trained ability to meet the serious emergencies of his environment.

What Schuyler County has done at this annual meeting is a splendid example for the small county societies of the State.

S. E. MUNSON,
Councilor, Fifth District, Ill. State Med. Soc.

Marriages

EMIL HAUSER, Chicago, to Miss Mary Thomas of Woodstock, Ill., July 28.

GARWOOD C. RICHARDSON, Chicago, to Miss Metta Catherine Graf of Springfield, Mo., September 2.

GEORGE RUKSTINAT to Miss Lucille Peters, both of Chicago, July 5.

STUART L. SMITH, Pittsfield, Ill., to Miss Ethel Wentz of Edwardsville, August 15.

Personals

Dr. Robert W. Keeton addressed the Sangamon County Medical Society, September 4, on colitis.

The Madison County Medical Society was addressed, September 5, by Dr. Harry G. Greditzer, St. Louis, on prostatitis.

Dr. Nathan S. Davis, III, talked on "Diagnosis and Treatment of Heart Disease" before the Rock Island County Medical Society, September 9.

The Douglas County Medical Association was recently addressed by Dr. John R. Neal, Springfield, who spoke on legislative matters concerning the medical profession.

Henry C. Niblack is scheduled to give the first of a series of eight health talks before the Young Mothers Club of West Chicago, Wednesday evening, October 1.

Roswell T. Pettit of Ottawa will give a health talk at the October 1st meeting of the Lutheran Immanuel Church Mothers Circle, Chicago.

J. F. Jaros will give a talk on "The Backward Child" at the October 2 meeting of the Nobel School Parent Teacher Association.

W. A. N. Dorland will present the subject of Cancer before the Forest Park Lions Club, October 2.

Dr. Max S. Wein, addressed the Fulton County Medical Society, at Canton, Ill., September 24, on the relation of dermatology to general medicine.

Dr. James L. Smith was appointed superintendent of the Illinois Charitable Eye and Ear Infirmary by Governor Emmerson on August 1, 1930, taking the place of Dr. Leo Steiner.

Dr. Le Roy Thompson was appointed chief of staff of the Illinois Charitable Eye and Ear Infirmary by Governor Emmerson on August 1, 1930, taking the place of Dr. William L. Noble.

Dr. C. Ellsworth Black, Jacksonville, addressed the Morgan County Medical Society, September 11, on "Appendical Abscesses"; Dr. Warner H. Newcomb spoke on purpura, and Drs. William H. Weirich and Frank Garm Norbury, medical observations abroad.

Sir James Purves-Stewart, English neurologist, lectured at Northwestern University Medical School, September 16, in the Ward Memorial Building, 303 East Chicago Avenue, on "Disseminated Sclerosis."

Ira C. Copley of Aurora is reported to have given to the Aurora Hospital Association a building fund of \$1,000,000, a site valued at \$150,000, and an endowment fund of \$1,295,000.

Dr. Harry E. Marselus, formerly assistant directing officer at the East Moline State Hospital, has been transferred to the state school at Dixon. He will be succeeded at the East Moline Hospital by Dr. Wilson K. Dyer of the state hospital at Peoria, and Dr. Dyer's position will be filled by Dr. Henry B. Knowles of the Dixon school.

Howard J. Shaughnessy, Ph.D., Chicago, has been appointed chief of diagnostic and research laboratories of the state department of public health to succeed Thomas G. Hull, Ph.D., who resigned last spring. In 1926 Dr. Shaughnessy was an instructor in the department of bacteriology, pathology and public health in the Yale University School of Medicine and since 1927 has been an instructor in the University of Chicago, in charge of research investigation on infantile paralysis.

Hugo Duess, under the auspices of the Chicago Tuberculosis Institute, gave an interesting talk over WGN on September 10 on "Distribution and Control of Tuberculosis."

Don C. Sutton presented a paper before the Wisconsin Medical Society on September 10 on "Mechanism of Pain in Angina Pectoris."

Edward S. Blaine will attend Dr. Bloodgood's special course on Bone Tumors in Baltimore the week of September 15 and will also attend the annual meeting of the American Roentgen Ray

Society at West Baden the following week, participating in the program.

Robert S. Berghoff presented a paper before the McLean County Medical Society on September 9 on "Syphilis of the Heart."

Irving F. Stein will present a paper before the Michigan State Medical Society at Benton Harbor on September 16 on "Roentgen Diagnosis in Gynecology and Obstetrics."

News Notes

—The 59th annual meeting of the American Public Health Association will be held in Fort Worth, Texas, October 27 to 30.

—Clinical Medicine & Surgery has added a new feature to the Journal, namely, a department of Physical Therapy and Radiology inaugurated in the September, 1930, issue of the Journal.

—The medical diploma of Damaso Tumaneng Samonte, dated September 1, 1930, has been reported as lost by Dean Louis D. Moorhead of Loyola University School of Medicine. The loss occurred while the diploma was being transferred by messenger from the arts and science department of the university to the medical school. It did not contain the signature of Dean Moorhead or the university seal.

—The special committee, appointed by the chairman of the council, to assist the health commissioner in settling the baby marking question, held a meeting Friday, September 19.

It was decided to appoint a sub-committee of three, Drs. John J. Pflock, F. F. Maple and A. H. Ferguson, to confer with the health commissioner, and to bring recommendations to the council of the medical society.

—The milk sanitarian from the U. S. Public Health Service is making a two months' inspection tour to ascertain the prevailing sanitary conditions in the industry covering the handling of milk from the cow to the consumer. He will inspect milk distributing and pasteurizing plants, transportation facilities and producing farms in fifteen representative communities of all population ranges. The cities selected at random include Chicago, Peoria, Rockford, East St. Louis and Springfield in the upper population group; Quincy, Urbana-Champaign, Joliet, Decatur and Elgin in the intermediate group; and Mount

Vernon, Murphysboro, Carlinville, Paris and De Kalb as the group of least population. Ratings will be made on the basis of the sanitary conditions found and computed with those found in other states, and the report based thereon will be submitted to the White House Conference on Child Health.

—The board of trustees of the Michael Reese Hospital announces the opening of a group of laboratories designed for research in diseases of the heart. The laboratories were established primarily through a gift of \$20,000 outright and the creation of a trust fund of approximately \$120,000 by Mrs. Fannie Wedeles in memory of her husband, the late Emil Wedeles. Contributions by Milton L. Strauss, Morris Vehon, Harry D. Oppenheimer, Frederick K. Babson and Theodore A. Weil have aided in the establishment and maintenance of the new laboratories. The investigation of angina pectoris and coronary sclerosis and thrombosis will be the first problems studied. In connection with the laboratories has been established a cardiac clinic which employs two full time cardiac social workers. Beds for the study of heart patients have been set aside in the general hospital wards. A full time medical director and a staff coordinate the various aspects of this project and the work of the staff of Michael Reese Hospital. One of the activities of the heart group is the giving of graduate courses for physicians. The work of the clinic is designed to assist in the country-wide movement for the prevention and control of heart disease, from which there has been a constantly increasing death rate.

—According to the Associate Press under date of September 17, Dr. John R. Brinkley, whose claims for success in transplanting goat glands into human patients for rejuvenation have attracted wide attention, today was shorn of his license to practice medicine and surgery in Kansas.

Finding the Milford specialist and hospital owner guilty of gross immorality and unprofessional conduct, the Kansas board revoked the certificate granted him in 1916.

Simultaneously the Missouri board of health announced it had cited Dr. Brinkley on a charge of unprofessional conduct growing out of complaints from former patients of that state.

Dr. James Stewart, secretary of the Missouri board, said a hearing would be held in Kansas City, Mo., October 9.

Included in the charges against Dr. Brinkley was the assertion that the specialist's "compound" operations for gland enlargements, rejuvenation and physical ailments could not be successfully performed "either with human or animal glands."

Dr. Brinkley made an unsuccessful effort before the federal radio commission to obtain an extension in the license for station KFKB, operated in connection with his hospital.

The station later resumed operation pending outcome of an appeal. The physician has announced discontinuance of his medicinal broadcasts and lectures, which contributed to his troubles with the medical association.

Deaths

ROBERT BOYD ANDREWS, Belvidere, Ill.; Chicago Homeopathic Medical College, 1896; member of Illinois State Medical Society; aged 58; died Aug. 16, of coronary thrombosis, myocarditis and hemorrhagic pancreatitis.

HIRAM FOUSER, Moline, Ill.; General Medical College, Chicago, 1886; died, September 6, following retirement from practice for some time.

GUY HERBERT JACOBSON, Taylorville, Ill.; Chicago College of Medicine and Surgery, 1916, and Northwestern University Medical School, 1922; a member of Illinois State Medical Society; county physician of Christian County and veteran of the World War; aged 39; died September 8, of carcinoma.

CLAUS F. P. KORSELL, Chicago; Rush Medical College, 1886; aged 67; died, August 27, of cerebral hemorrhage and arteriosclerosis.

PAUL KREYE, Chicago; Bennett Medical College, Chicago, 1883; a member of Illinois State Medical Society; on the staff of Cook County, Columbus, St. Joseph's and American hospitals; aged 77; died, September 17, of tumor of lung and arteriosclerosis, following an operation.

MICHAEL A. SERRITELLA, Chicago; Chicago College of Medicine and Surgery, 1916; a Fellow, A. M. A.; aged 42; died, August 12, of a self inflicted bullet wound.

JANE GROMBIE TRULL, Elgin, Ill.; Bennett Medical College, Chicago, 1905; aged 59; died, September 6, of heart disease.

CHARLES W. WARD, Chicago; Rush Medical College, Chicago, 1887; aged 71; died, July 24, of coronary embolism.

CHARLES DOUGLAS WRIGHT, Springfield, Ill.; Rush Medical College, 1880; aged 73; died, August 26.

Patient Types . . .

The Obese Patient

is frequently in the chronic constipated class because of the factors of dietary excesses and lack of exercise.

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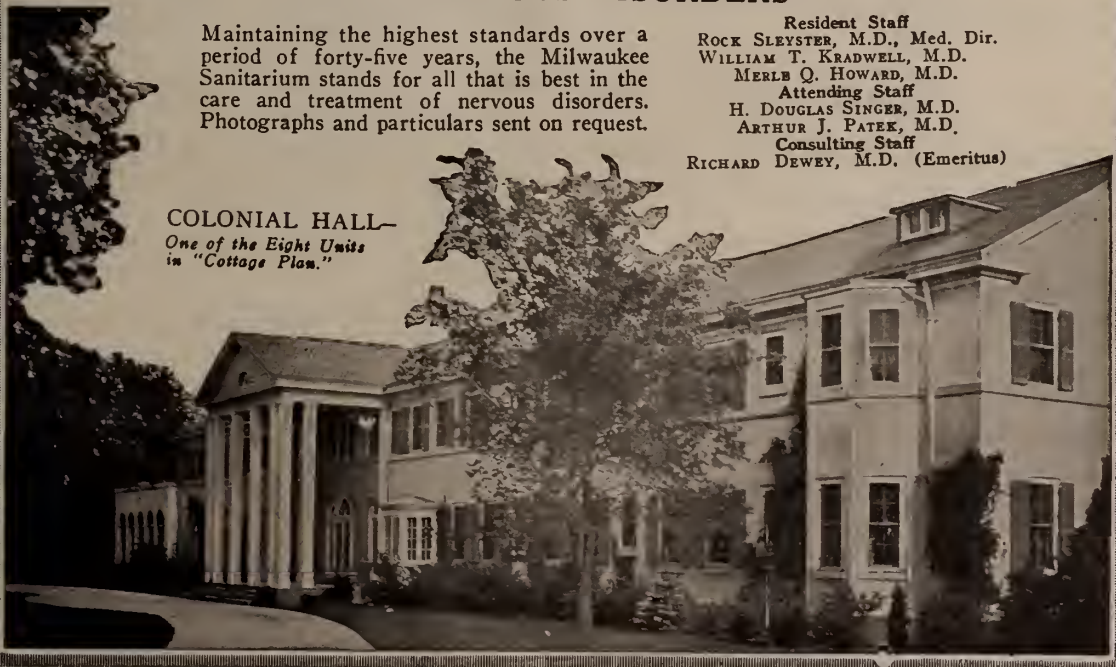
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Editorials

LIKE BANQUO'S GHOST THE CHICAGO
PUBLIC HEALTH INSTITUTE WILL
NOT DOWN.

THE PUBLIC HEALTH INSTITUTE CON-
TROVERSY WITH ETHICAL MEDI-
CINE WILL NOT BE SETTLED
UNTIL IT IS SETTLED RIGHT.

The Chicago Public Health Institute's troubles with ethical medicine increase in direct ratio with its offenses. Like Banquo's ghost, this one, too, can not be laid until it too is "purged of all its foul crimes and dire iniquities done in its days of nature."

With as much vehemence as a brass band run by a blacksmith "Chicago's Public Health Institute" manages to keep itself in the public ear. It is not a local but a national issue. Anybody knows that such a brass band can penetrate longer and louder and farther than the most exquisite symphony played with the greatest artistry on the finest Stradivarius.

Brass, unfortunately does not mean class. Nor does it signify that because it is heard it is adored. Troubles of such a brass band never end. They would if the band first would disband and then would practice the praiseworthy virtue of silence. But like Banquo's ghost such persistence, noisy organization continues to walk the earth treading on the sonant heels of harmony and giving the equilibrium of euphony a deliberate sock on the nose.

The public at large and the profession in particular is about to be regaled with other wails from the Public Health Institute, which can never be stilled until such time as it is purged of all its "foul crimes and dire iniquities."

The next immediate wail of the Public Health Institute arises from the sending to it of the following communications reprinted in full from

the bulletin of the Chicago Medical Society under date of August 30, September 2, September 3, September 10, September 20 and September 27, 1930:

THE PUBLIC HEALTH INSTITUTE

The following letter was sent under date of July 22, 1930, to Drs. E. E. Irons, L. Hektoen, J. A. Capps, A. D. Black, W. W. Hamburger, C. A. Elliott and J. W. Miller, member of the Advisory Board of the Public Health Institute.

Dear Doctor:

Nearly a year has elapsed since the so-called reorganization of the Public Health Institute and so far as can be learned there is no radical change in the conduct of the Institution.

Apparently the Medical Director continues to carry on his usual policy of delay, tergiversation and possibly an outward assurance of co-operation which finds no stay or maintenance in works.

According to our information the rules of the house which have required the selling of examinations, heart, lungs, etc., where they are unnecessary are as yet unaltered.

It is reported too that unlicensed physicians and even "the porter" are engaged in medical practice and are giving treatments at the Institute.

There are no signs of effort to divide up the work of the establishment into Departments as the plan of reorganization professed to do, and the Medical Director to all appearances, is using the Medical Advisory Board for stool pigeons as he boasted he would, and just as he has for years used the lay Board of Trustees.

In the Chicago Tribune advertisement for Sunday, July 20, the impression is conveyed that the work of the Public Health Institute is wholly endorsed by the medical profession, through its representation in the Medical Advisory Board.

You know, and we know, that such endorsement is not according to facts, and that such official and professional encouragement gives the public a far more erroneous opinion of the kind of work done at the Institute than any reader could obtain from the associated publication of the names of the lay Board of Trustees.

To the Public Relations Committee of the Chicago Medical Society it seems desirable, therefore, that you should make your position plain to those in charge of the Institute, and either bring about a recognizable alteration in the conduct of affairs or, for your own sakes, to refuse to allow your names, reputation, and standing as physicians to be further imperiled by the Association.

This letter is sent to each member of the Advisory Board in duplicate because we have no information as to who constitute the officers of your Board. It is unthinkable of course that a body of high-minded medical gentlemen would permit themselves to be organized and ruled by laymen, like the staff of the Institution to

which you are lending your personal honor and professional eminence.

With assurances of personal esteem, I am

Yours very truly,

(Signed) CHARLES B. REED,

Public Relations Committee,
Chicago Medical Society.

It can plainly be seen that this organization's "days of nature" continue to be jammed full of trials and woe.

Whenever the Public Health Institute wants to throw a stone it does so in the name of a member who was expelled from the Chicago Medical society because of his connection with the unethical Public Health Institute.

An editorial printed Sept. 2, 1930, in the *Chicago Tribune* shows how biased are the champions of the Public Health Institute and upon what an improper perspective their findings are focused.

DR. SCHMIDT AND DR. HARRIS

It appears now that Dr. Malcolm L. Harris is not to be disciplined for unethical conduct by the Chicago Medical society.

Dr. Harris is one of Chicago's most distinguished surgeons. Last year he was president of the American Medical association. He has also served as president of the Chicago Medical society. Nevertheless, Dr. Harris was obliged to defend himself against the charge of improper professional conduct. It is a good deal as if Mr. Hughes, Mr. Wickersham, or Mr. Strawn were to be cited for unprofessional conduct by the bar association. No one can accuse the Chicago Medical society of being a respecter of persons. It threw Dr. Louis Schmidt out of its fellowship, though he was one of its most distinguished members, and it began proceedings against Dr. Harris.

The attempt to distinguish the case of Dr. Schmidt from the case of Dr. Harris is not easy. Both clinics were headed by physicians of high standing. Neither was operated for profit. Both employed advertising. Both aimed to give superior service at low cost. Both have undertaken to modify their advertising to accord with the views of the medical society. The chief difference appears to be that the Public Health Institute employed newspaper advertising, which is highly effective, while the Policlinic issued a circular, which is far less so. The conclusion seems warranted that physicians may associate themselves with clinics which advertise services at reduced costs provided the advertising is not effective.

This is a good deal as if a doctor should instruct his patient to eat freely of everything except food, but we are not disposed to be hypercritical of the medical society. It is a large body and it must move slowly. It is engaged, whether it knows it or not, in the difficult task of rewriting the code of medical ethics, so-called. It seems to have recognized the absurdity of

retaining in the code prohibitions which its most eminent members do not observe. It has already gone so far as to admit that some forms of medical advertising are acceptable. It is beginning to grasp the fact that the family of moderate means constitutes the bulk of the population in this country and that meeting the requirements of this section of society is therefore of first importance. These are considerable advances and are to be commended, provided, as seems altogether probable, they are intermediate and not final. Meanwhile the society which threw Dr. Schmidt out has now virtually accepted his position, but has not taken steps to reinstate him. That is an inconsistency which, as time goes on, must cause the society considerably more pain than it does Dr. Schmidt.

It must be confessed that Dr. Reed would seem to be in line for sincere congratulations on account of his masterly letter written in reply to the *Chicago Tribune*, published in the *Bulletin* of the Chicago Medical Society under date of Sept. 13, 1930, and reprinted herewith:

OPEN LETTER TO THE CHICAGO DAILY TRIBUNE

The following letter was sent under date of September 3 to the Editor of the Chicago Daily Tribune, in reply to the Editorial which appeared in the Tribune September 2, 1930.

Editor, Chicago Daily Tribune,
Chicago, Illinois.

Dear Sir: It seems necessary to inform you, since you make the contrary assertion in your editorial of September 2, that the Chicago Medical Society still retains in its Code of Ethics the various prohibitions which certain commercially minded members of that society have felt could be safely violated. In fact a mind that is oriented for commercial success does not and can not have an adequate understanding of the professional attitude.

If the profession of medicine is to retain the respect of the community; if it is to be trusted by the public as well as by the patient, each and all of its members must realize that a breach of faith is malfeasance, no matter who commits it and neither great wealth nor professional eminence will protect the malefactor who conveniently forgets his professional obligations. The Tribune very correctly emphasizes this point and quotes fitting examples. Technical proficiency is not always associated with group loyalty or moral uprightness.

The profession of medicine has such a value to the community that a wise policy underlies the restriction of such practice to those especially qualified to uphold its standards. In carrying out the principle of personal and direct responsibility of doctor to patient a wholesome result is achieved for all classes of society and particularly for the people of moderate means, to which class the entire medical profession, with a few wolfish exceptions, belongs.

"Every man of great wealth," says Roosevelt, "who runs his business with cynical contempt for those pro-

hibitions of the law which by hired cunning he can escape or evade is a menace to our country"—and, it may be added, a reproach to the profession which he betrays.

Mr. Wickersham, Mr. Hughes and Mr. Strawn, to whom you refer, would find the same condition and meet with the same fate in the Bar Association if their financial success had given them more egotism or less mental poise. In such cases both the Bar Association and the Medical Society are happily able, if necessary, to slough off putrid material and thank God for their physical immunity to toxic matter.

It may be well for the Tribune to understand here and now that the expulsion of members of the Chicago Medical Society is not a transient, but a permanent dissolution of fellowship which is decreed only after the best interests of the medical profession and the public have been carefully considered. In most cases these interests are found to be identical.

As regards the advertising, every class of society except Mass Production Magnates, admits that a professional card is all that is required for any one who has a thought for honor and reputation rather than for great wealth impatiently acquired. Emerson's story of the mouse trap is still valid. The story is equally applicable to corporations which are illegally employed in the practice of medicine. Mass Production Magnates who run these institutions cannot operate them except along commercial lines. The South Sea Islander hollows out his canoe by fire because he knows nothing better, but for the Tribune to maintain that an institution which professes to cater to "people of moderate means" is operated on a "not for profit" basis when it can offer a man forty thousand dollars a year out of its profits to come to Chicago and manage it, is the height of something or other—ignorance or nonsense.

The profession of medicine has to battle with one of the strongest influences in American democracy, the tendency to emphasize wealth as the center of power, and advertising as the means to this achievement. In medicine, if one *may* advertise all *should* advertise, and in the confusion and chaos thus produced our sick and afflicted will be lured into the ministrations of the man or institution with the largest purse regardless of ability or competence. Soliciting, however desirable it may be from a commercial standpoint where "profits first" is the slogan, leads in the practice of medicine to the dissolution of moral bonds and the disintegration of all that is highest and finest in human nature.

Sin in other forms is just as malignant and much more prevalent today than venereal diseases, as the Tribune's columns daily portray, and yet the religious profession does not advertise that such and such a church or synagogue will heal the distressed soul and relieve it of the sense of sin for a moderate price any Sunday morning at ten. No religious nor, indeed, any other form of honest advertising needs to call attention to more than its location, its time and its offering. High powered salesmen are unnecessary. The sinner who needs help will easily find his way to salvation

under the general invitation "Come all ye that labor and are heavy laden."

Very truly yours,

CHARLES B. REED.

The following letter was sent under date of September 10, 1930, to Drs. E. E. Irons, L. Hektoen, J. A. Capps, A. D. Black, W. W. Hamburger, C. A. Elliott and J. L. Miller, members of the Advisory Board of the Public Health Institute.

Dear Doctor:

The purpose of the Public Relations Committee of the Chicago Medical Society is to preserve and keep clean in the interest of the community, the principles of a profession whose existence is primarily for the benefit of the community. As we are witnesses of unprofessional practices and know the evil consequences, so our responsibility increases and the community calls upon us for initiative, for guardianship and zeal.

Our letter of July 24 directed your attention to the increasing restlessness and resentment of the medical profession arising from your continued association with the Public Health Institute.

In your laudable ambition to purge and purify an unethical institution, you accepted an unfortunate position; a position which exposes you to constant censure and condemnation by fellow members of the Society through your willingness to lend your honorable names to the questionable reformation of an institution whose very existence is injurious to the public, to the profession of medicine and to yourselves.

You, gentlemen, are responsible to the profession of Chicago and of the whole United States for the fulfillment of the task you undertook or a frank abandonment of the attempt. Nearly a year has elapsed since you assumed this obligation and up to this time the Chicago Medical Society which agreed to the proposal with reluctance and mistrust, has had no report from you either as individuals or as a committee on the accomplishments achieved or the ends hoped for. In the absence of information it is impossible to know whether this silence is due to inactivity in the affair, to indifference to professional opinion, or to an unconsciousness of the dangers in the situation.

Whatever the reason, it is necessary now to inform you that the Annual Meeting of the Council occurs early in the month of October, and therefore it is the duty of this Committee to ask you to make a report to the Society on or before October 1, 1930.

With assurance of personal esteem, I am

Very truly yours,

IRVING S. CUTTER,

Chairman Public Relations Committee,
Chicago Medical Society.

THE PUBLIC HEALTH INSTITUTE

The following letter was sent under date September 24, 1930, to Drs. E. E. Irons, L. Hektoen, J. A. Capps, A. D. Black, W. W. Hamburger, C. A. Elliott and J.

L. Miller, members of the Advisory Board of the Public Health Institute.

Dear Doctor:

In reply to my letter of September ninth, the Committee has received from Mr. Michael Davis of the Rosenwald Fund a letter under date of September 19, copy of which is enclosed. Mr. Davis signs himself acting Chairman of the Medical Advisory Committee of the Public Health Institute.

Is it your desire that the above communication be received by the Council of the Chicago Medical Society in lieu of the report requested in the letter sent you under date of September ninth?

Yours very truly,

IRVING S. CUTTER,

Chairman, Public Relations Committee,
Chicago Medical Society.

September 19, 1930.

Dear Doctor Cutter:

I am directed by the Medical Advisory Board of the Public Health Institute to acknowledge the receipt of your letter of September 9.

The Board desires that attention be called to our letter of April 28, 1930, written in response to one from you as Chairman of the Public Relations Committee of the Chicago Medical Society, asking how long a time might be required to put into operation the recommendations adopted for the improvement of the Institute. Your letter was printed in the Society BULLETIN of April 12 (p. 23) and our reply in the BULLETIN of May 10 (p. 24). Our letter stated that:

"The recommendations which the Medical Advisory Board based upon the reports of the three visiting physicians and which as your letter states, have been approved by the Trustees of the Public Health Institute will take a considerable time to work out in practice. Securing the clinic chiefs, for instance, indicated in recommendation No. 1 may take a number of months. Action upon several other recommendations should follow, and not precede, the installation of these men. The policy under which the advertising is to be conducted was defined in the statement which was printed some weeks ago. Working this policy into the advertisements will proceed step by step as concrete suggestions are developed.

"In general, it is the sentiment of the Medical Advisory Board that a year from now is not too short a period for the careful tentative development of the recommendations and plans thus far adopted."

It will be recalled that the policy and recommendations of the Board together with the reports and conclusions of Drs. Cole, Keyes and Parran, were published in full last spring previous to the above-mentioned correspondence. Since that correspondence, plans have been completed whereby the advertisements of the Institute are regularly submitted to the Board and they are now published if and as approved, and contain a printed statement of this approval. It is hoped that study and criticism will still further improve the advertising in educational quality and in effectiveness.

Negotiations are now in process with possible candidates for clinic chiefs. The Board instructs me to state that it has seen no reason to change its opinion as to the time needed for carrying out the recommendations and that it will move forward in this important and necessary task in the belief that progress is being made as rapidly as conditions permit.

Very truly yours,

MICHAEL M. DAVIS,

Acting Chairman,

Medical Advisory Board of the Public Health Institute.

From many sources, both local and national, we have received numerous inquiries by telephone, by mail and verbally asking the status of the Public Health Institute at Chicago in its relation to the Chicago Medical Society and to the local medical profession.

The argument is set forth at length because this problem of Chicago's Public Health Institute is not one of merely local importance. It is a problem which affects nationally the medical profession in that it is not only a lay corporation practicing medicine but also that some of its methods of practice are definitely open to question. Furthermore it has far exceeded both the canons of good taste and the accuracy of its knowledge by daring to enter into the pros and cons of so purely and personally a professional matter as the disciplining of a member when the disciplinary unit contends, asserts and upholds that the discipline—as extended—was from a purely scientific standpoint, on a purely scientific error and for purely scientific reasons and in a realm where scientists alone are concerned and are competent to sit in judgment. It is beyond credence and would be beyond tolerance if a board of physicians insisted upon reversing the opinions of the U. S. Supreme Court—of a labor union or of a commercial association. It would seem also that for the Public Health Institute and its commercial backers the point of dignity, wisdom and probity might be found in a policy of silence and a doctrine of noninterference.

THE TRUTH NEEDS NEVER FEAR LIGHT ON ALL SIDES OF A QUESTION

Because of the praise given a most obnoxious, pretentious and unscientific corporation practicing medicine by one of the country's kindest

hearted, wealthiest and well intentioned but in some respects sadly misinformed but highly respected American citizen, the ILLINOIS MEDICAL JOURNAL reprints the open letter to Julius Rosenwald that appeared in the *Bulletin* of the Chicago Medical Society under date of Nov. 1, 1930.

OPEN LETTER TO MR. ROSENWALD

(October 28, 1930)

At a meeting of the American Hospital Association held in New Orleans, Mr. Julius Rosenwald of Chicago was quoted by the *Chicago Tribune* of October 21, 1930, as saying:

"The receipts from pay patients for all the services of the hospital and clinics amounted last year to more than \$500,000. If this had been given on a charity basis it would have required the income on a ten million dollar endowment. Therefore it seems to me that universities and hospitals have no right to attempt to raise huge endowments for service which can—and should—be paid for by the recipient."

At this point the quotation of Mr. Rosenwald's speech ceases and the reporter takes up the story:

"As another illustration that good medical care can be given to great numbers at low fees, Mr. Rosenwald told of the Public Health Institute of Chicago. This pay clinic for social disease has given more than three million treatments to 150,000 different patients at a cost of \$1.50 per treatment, he said. He added that out of this comparatively small fee the institute has more than covered its expenses and accumulated a surplus, used to promote research and to furnish free treatment to a limited number of patients unable to pay even small fees."

If these figures are correct it works out that the average cost per patient is \$30.00.

Mr. Rosenwald is then directly quoted:

"There still is serious opposition to these organized self-supporting services from certain elements of the medical profession who seem to fear competition."

If Mr. Rosenwald has been correctly quoted he can only be understood as indicting "certain elements of the medical profession" for the high cost of hospital care. If that is his intention he has been guilty of what might be called in the language of diplomacy, a deliberate mis-statement. If it is not his intention then he has been guilty of a serious error in logic. In the first place Mr. Rosenwald must be well aware that the medical profession is not responsible in the slightest degree for the executive management of any of the larger Chicago hospitals. The charges for hospital care are determined, not by the doctors, but by the business men who constitute the Board of Trustees. If the charges are unfair or if they are the result of inefficient management, and these are points which need no discussion here, then the fault is not the doctor's. The blame, if any, should be placed on those who manage the institutions. Mr. Rosenwald cannot name a single

large hospital in which the medical staff is allowed any voice in the management. It is not true of Michael Reese, St. Luke's Presbyterian, Wesley, or Mercy. In all of these hospitals the medical staff is responsible only for professional care. The doctors have no more to say about the charges for room rent, x-ray fees, laboratory fees, charges for drugs, anesthetics, dressings, and other extras than Mr. Rosenwald.

In an editorial in the *Daily News* of October 22, 1930, the editor referring to Mr. Rosenwald's speech remarks, "Medicine is a noble profession, scientific in its nature. Its economic side, as progressive physicians recognize, is undergoing radical readjustment. Consequently it needs the guidance of business experts, of organizers, co-ordinators and planners." Here again it is obvious that the editor confuses the profession of medicine with the business of hospital administration.

In this connection it may not be amiss to report that these various large Chicago hospitals are losing from \$50,000 to \$500,000 yearly through this same management by business men which Mr. Rosenwald and the *Daily News* wishes to impose upon the medical profession. Possibly the *News* means to suggest here that the medical profession could be organized more successfully by the business experts whose incapacity has been so obvious this year in their own line. A hospital is a hotel for sick people run by business men in which doctors have to place their patients but in which they have no more to say about room charges, etc., than if they were treating that same patient in the Stevens Hotel. Let Mr. Rosenwald direct his criticism toward his business associates whose names appear on the rosters of the various Boards of Trustees. If he can suggest a way by which they can cut the cost, furnish the same kind of service as formerly and avoid a deficit at the end of the year, they will be glad to learn of it. Certainly the members of the medical profession will welcome the change. At the present time it not infrequently happens that physicians furnish professional care entirely free to patients paying from \$1.00 to \$5.00 per diem to the hospital. The amount of time and thought donated to the public by members of the medical staff of the County Hospital alone would in a single year far exceed Mr. Rosenwald's entire fortune. We have nothing to gain as individuals or as a profession by seeing the costs of hospital care kept above a level which the average citizen can afford. To imply that physicians are less interested in the public welfare than Mr. Rosenwald is both unfair and untrue.

Mr. Rosenwald is not only unfair but he is inconsistent. He states that "universities and hospitals have no right to attempt to raise huge endowments" and that the receipts of the University of Chicago clinics last year exceeded \$500,000. He failed to state, however, that during the first year of operation the deficit of the clinic referred to exceeded \$300,000 and that during the second year it amounted to \$150,000 and that these deficits were erased by the Rockefeller Foundation aided by other organizations which may have included the Rosenwald Foundation. In what

way does this differ from having an endowment fund? Mr. Rosenwald uses the Public Health Institute to illustrate how hospital costs may be reduced. This is superficial and hardly justifies a reply were it not for the fact that Mr. Rosenwald and hundreds of other sincere men hold similar views. The Public Health Institute occupies a few rooms where treatment is given to ambulatory patients suffering from social diseases. It does not furnish meals and consequently does not need kitchens, refrigerator space, store rooms, dumb waiters, dietitians, cooks, or waitresses. It does not furnish sleeping accommodations and consequently does not require private rooms, bedding, janitor service, laundry, bathing facilities, a corps of engineers and firemen to maintain heat, and painters, plumbers, electricians, carpenters and housekeepers to keep the rooms in order. It does not care for contagious diseases, pneumonia, broken bones or maternity cases. It does not conduct a school for the training of nurses which necessitates dining rooms, sleeping accommodations, laundry, food and recreation as well as instruction. The Public Health Institute will not even take care of all the illnesses due to syphilis and gonorrhoea. It takes care only of those patients who are able to walk into the clinic and pay a fee. The syphilitic who is helpless from locomotor ataxia and the syphilitic who is insane from general paralysis and unable to get about must still be cared for by the physician in the home or in the general hospital, and he must be cared for whether he has or has not money.

Physicians have no quarrel with the Public Health Institute on the basis of the fees which they charge and they never have had, notwithstanding the smoke-screen which Dr. Louis E. Schmidt attempted to raise. Incidentally there is unimpeachable testimony that Dr. Schmidt condemned the Public Health Institute lock, stock and barrel one year prior to the time he became its valiant defender. No, the quarrel with the Public Health Institute has nothing to do with fees nor the fear of competition. It is based entirely on the fact that the Public Health Institute resorts to direct advertising, a thing which no honest and reputable hospital or physician will do either from ethics or necessity. Possibly the aversion of the medical profession to advertising is wrong but that is not the subject under discussion. Any man who distorts the basis of our quarrel with the Public Health Institute by leading the public to believe that the medical profession is opposed to measures which will advance the public welfare is a malicious mischief maker. Physicians believe that they have just as keen an interest in the public welfare as the average layman be he wealthy or poor. They believe that direct advertising is inimical to the best interests of the public. They are fully aware that we are living in an era which calls for a revaluation of human relations. They observe these adjustments going on all around us, and they do not expect to continue living under an outworn code. No one knows that adjustments may be necessary but the doctors are surprised to find so many people with a minimum of practical personal experience who know exactly

what should be done. That millions of earnest men including able statesmen in all nations desired to stop the World War did not deter Henry Ford from offering his personal services. Medicine and hospital administration are not the only fields in which readjustments are taking place. Chaos rages in the educational field. In political economy various schemes from the individual dictatorship of Mussolini to the mass dictatorship of communism are being tried. In the religious field it is difficult to find any indications that there is unanimity of opinion as to the proper way to worship the Creator. Do the sociologists, criminologists, or lawyers know how to make America a law-abiding country? Even among the leaders of business there are wide differences of opinion in regard to the causes of the present business slump and the remedies which should be invoked. Many of these problems can be solved by frank and fair discussion. The medical profession does not reject the interest of Mr. Rosenwald and other wealthy men. They invite their help in arriving at a correct solution of medicoeconomic problems by means of frank discussion. The doctors believe that neither Mr. Rosenwald nor any other man knows the exact remedy which should be prescribed. If Mr. Rosenwald would meet a few men who are as distinguished in medicine as he is in business for informal discussion of these problems a basis of understanding if not for co-operation might be devised.

(Signed) W. H. Holmes, M. D.

This letter was inspired by remarks made by Mr. Rosenwald on different occasions among which must be cited the convention of the American Hospital Association held in New Orleans during October, 1930, and at one of the sessions of which Mr. Rosenwald was a prominent speaker.

Under date of October 21, 1930, *The New Orleans States* quotes him as follows:

Julius Rosenwald, noted philanthropist of Chicago, sounded the keynote of the convention Monday night in an address in which he urged provision of efficient medical service at fees within the reach of the average man. Mr. Rosenwald declared that establishment of such service was a fact and not a theory and pointed out the success of such a plan as established at the University of Chicago clinic in connection with its teaching hospital.

Mr. Rosenwald declared that the "self respecting" American does not want charity but "expects what he buys—as well as any service he receives, shall be furnished as efficiently as possible and at such prices that he may be able to pay for what he gets.

"Therefore hospitals and clinics at the present time should decrease their free work and greatly enlarge their pay work, thus adding substantially to their current incomes and offering services more in keeping with the American ideals and much more acceptable to the majority of American citizens.

"There is still serious opposition to these organized self-supporting services from certain elements of the medical profession who seem to fear competition," he said. "They overlook the fact that the best possible asset to the profession is the realization by great numbers of people of the benefits of medical care . . . that as more people get into the habit of using medical service, there will be increased opportunities for all physicians."

Newspapers all over the country gave much space and prominence to Mr. Rosenwald's talks as his ideas are quite in line with the attacks on the medical profession that are finding such favor at present with a large proportion of the laity.

In the news columns of the *Chicago Tribune* on October 21, 1930, appeared this report of Mr. Rosenwald's New Orleans speech:

ASKS HOSPITALS TO USE MODERN BUSINESS IDEAS

ROSENWALD URGES SERVICE AT MODERATE PRICES

"Julius Rosenwald of Chicago urged tonight the establishment of more moderate pay clinics and hospitals to provide efficient service at fees within reach of the average man.

"Mr. Rosenwald addressed the convention of the American Hospital association. He pointed out that with more than three billion dollars invested American hospitals have entered the class of big business. He then told of the success of institutions running with a schedule of charges and professional fees within reach of persons of limited salary.

"As an example he cited the moderate priced pay clinics of the University of Chicago in connection with its teaching hospital. During the year 1929-30 that hospital ran 82 per cent full and the pay clinics increased from a trifle more than 100 patients a day during its opening year, three years ago, to almost 300 a day at present, he said.

"The receipts from pay patients for all the services of the hospital and clinics amounted last year to more than \$500,000," he said. "If this had been given on a charity basis it would have required the income on a ten million dollar endowment. Therefore it seems to me that universities and hospitals have no right to attempt to raise huge endowments for service which can—and should—be paid for by the recipient."

As another illustration that good medical care can be given to great numbers at low fees, Mr. Rosenwald told of the Public Health Institute of Chicago. This pay clinic for social disease has given more than three million treatments to 150,000 different patients at a cost of \$1.50 per treatment, he said. He added that out of this comparatively small fee the institute has more than covered its expenses and accumulated a surplus, used to promote research and to furnish free treatment to a limited number of patients unable to pay even small fees.

"There still is serious opposition to these organized self-supporting services from certain elements of the medical profession who seem to fear competition," Mr. Rosenwald said. "They overlook the fact that the best possible asset to the profession is the realization by great numbers of people of the benefits of medical care—that as more and more people get into the habit of using medical service there will be increased opportunities for all physicians."

Quoting statistics to show the rapid increase in the nation's hospital facilities, Mr. Rosenwald gave a tribute to the public spirit and open handedness of the American people in recognizing hospitals as a public responsibility. Of the three billion dollars invested in hospitals, 90 per cent or more has been contributed either by private gifts or from public funds, he said.

Mr. Rosenwald concluded with the contention that the "self-respecting" American does not want charity, but "expects what he buys—as well as any service he receives—shall be furnished as efficiently as possible and at such prices that he may be able to pay for what he gets."

He declared hospitals and clinics at the present time should decrease their fee, greatly enlarge their pay work, and thus add substantially to their current incomes.

The *Chicago Daily News*, under date of Oct. 21, 1930, not only reported Mr. Rosenwald's speech in its news columns as reprinted herewith but published also the editorial "Business Sense an Aid to Medicine," that is reprinted also:

PAY CLINICS NEEDED IN U. S.: ROSENWALD

Julius Rosenwald, Chicago philanthropist, last night told the members of the American Hospital Association, gathered for their convention here, that hospitals are now in the big business class, with more than \$3,000,000,000 invested in them in America.

Mr. Rosenwald also told them a number of other things in his topic, "Hospitals from a Business Man's Point of View." One was the need for more moderate pay clinics and hospitals, and the success these can attain when properly conducted.

He pointed out the success of institutions running with a schedule of charges and professional fees within the reach of the person on a limited salary, and yet sufficient to cover the costs of hospital maintenance and to provide reasonable remuneration to the physicians.

Among the examples he quoted was the establishment of moderate-priced pay clinics by the University of Chicago in connection with its teaching hospital. During the year 1929-30 the hospital ran 82 per cent full and the pay clinics increased from a trifle more than 100 patients a day during its opening year, three years ago, to almost 300 a day at present.

The receipts from pay patients for all the services of the hospital and clinics amounted last year to more than \$500,000. If this had been given on a charity

basis it would have required the income on a \$10,000,000 endowment.

Another conspicuous illustration that good medical care can be given to great numbers at low fees is the Public Health Institute of Chicago, asserted Mr. Rosenwald. This pay clinic has given over 3,000,000 treatments to 150,000 different patients at a cost of \$1.50 per treatment, he said, adding that out of this comparatively small fee the institute has more than covered its expenses and accumulated a surplus which is used to promote research and to furnish free treatment to a limited number of charity patients.

"There still is serious opposition to these organized self-supporting services from certain elements of the medical profession who seem to fear competition. They overlook the fact that the best possible asset to the profession is the realization by great numbers of people of the benefits of medical care—that as more and more people get into the habit of using medical service there will be increased opportunities for all physicians," Mr. Rosenwald said.

The following is the *Daily News* editorial:

BUSINESS SENSE AN AID TO MEDICINE

Addressing the American Hospital Association in convention at New Orleans, Julius Rosenwald emphasized the need for the application of sound business principles to the operation of clinics, hospitals and health institutes. Directing attention to certain self-supporting institutions in Chicago which serve the public efficiently, treating thousands of patients each week and charging very moderate fees, he urged that similar benefits be provided in other communities in the interest of public health.

There are some members of the medical profession who resolutely oppose all self-supporting health agencies that charge lower fees than those charged by physicians in their regular practice. Mr. Rosenwald reminded his hearer that the greatest possible asset to all who follow the art of healing is realization by the general public of the benefits of prompt medical care and periodic health examinations. Millions of persons habitually neglect their health even though symptoms of disease unpleasantly warn them of danger. Many act thus unwisely because of the high, often prohibitive, costs of medical attention and care, drugs, nursing, and hospitalization. In many families where sickness is a calamity sickness is not faced on its approach until further delay becomes impossible.

Medicine is a noble profession, scientific in its nature. Its economic side, as progressive physicians recognize, is undergoing radical readjustment. Consequently it needs the guidance of business experts, of organizers, co-ordinators and planners. Under modern conditions philanthropy alone will not solve the grave problems of public health. Co-operation, group medicine, business methods, large-scale operations are essential and inevitable.

HARPER'S MAGAZINE TELLS THE DOCTORS HOW TO PRACTICE MEDICINE

ANOTHER GROUP TELLS THE DOCTORS HOW TO PRACTICE MEDICINE

Doctors, did you know that the "Public's Resentment Challenges Physicians?"

If not buy Harper's Magazine for November and secure another load of advice as to how to practice medicine.

Isn't it about time that the profession went on record and took an active and concerted stand against such asinine propaganda against the practice of medicine?

The army of anti-medical ballyhoosers increases daily like flies or other pestiferous insects. It is all to the same effect—"Everybody knows how to practice medicine except the doctors." What was it Goethe said, "There are so many echoes but so few voices?"

Here's a sample of what Harper's says about us:

PUBLIC'S RESENTMENT CHALLENGES PHYSICIANS

In spite of our natural predisposition to confidence in the doctor and in spite of our general recognition of the altogether miraculous advances in modern medical skill and knowledge, there is obvious everywhere a growing sense of irritation on the part of the public generally toward present medical practice, declares an anonymous writer writing on the subject, "A Patient Looks At Doctors," in the November number of Harper's Magazine.

"The profession, of course, has not been totally blind to the growing difficulties of the public nor to its increasing resentment," the writer points out after describing her difficulties trying to get adequate medical attention in New York. "Here and there individual physicians have foreseen and have even had the courage to advocate as an alternative to the obviously inadequate individualism of American medical practice, some such system of State control or assistance as has already been adopted by twenty-eight civilized nations. There are individual physicians who, in spite of loyalty to their profession, with its generally high standards and its splendid achievements, can understand and appreciate the patient's point of view.

"If private medical practice will not of its own free will meet the needs of and the emergencies of the average citizen, some type of socialization will inevitably result."

ETHICS OF THE MEDICAL PROFESSION HAS BECOME A SHINING TARGET FOR EVERY UPLIFTER

Everywhere and in almost every manner medical men are being beleaguered by lay ideas of what ethics should mean to the medical profession.

If the question were less vitally serious to humanity and the humanities, the discussion might be said to partake of the nature of the length of a calvaryman's breeches or the protested size of a lady's shoe. For the ethics of the medical profession both in relation to itself and to its public is inherently and pre-eminently a personal affair.

The only possible premise upon which the right of interference in so delicate a matter could possibly be granted to the general public would be the possible proven fact that in its manner of procedure where professional ethics comes into the picture that this manner of procedure works hardship, distress or injustice upon the public that the profession serves. Naturally scientifically and again inherently the ethical profession itself is the only qualified component of society that can sit in able judgment upon this question, and there is no doubt but that it is this very same aristocracy of decision, this same impregnability of judgment that has the presumptuous mind of an uninformed laity resentfully up in arms. The ethics of the ethical medical profession is a commodity that neither the wealth of Croesus nor the maneuvers of the finest ward organization can traffic in with impunity or success. What men do not understand, nor appreciate nor grasp must swing eternally between the Scylla and Charybdis of fear, and worship or scorn and attack.

It may be said that as we have laws adjudicating certain aspects of commerce, war, finance, transportation, national and international relations, religion and the judiciary, and some of the less fluid arts that there should be similar lay supervision of medicine. Unfortunately medicine is one of the most intangible of the tangible sciences and must always remain so, until the human body, the human mind, and, ay, even the human soul become a different combination of elements. Until rebotism supplants mortality there can not be such an overwhelming debacle of the individuality of the medical profession as

to permit the non-medical mind to essay successfully to dictate to the medical profession what should be its ethics and what should not.

In this age of ultra materialism, of false standardization and of over influential ignorance it is difficult indeed to make the expected silk purse out of the sow's ear or to instill into the comprehension of the efficiency expert who can estimate the cost of making a bed spring by tenths of tenths of a hundredth per cent., the knowledge that some of the greatest of human values are those eluding magnificently the appraiser's eloquent pencil and its skill in reducing all things, human, divine, vegetable, mineral, animal to a set common denominator.

And perhaps of all these human values that must be exempted from such standardization not one rates higher, if as high by half, as the ethics of the medical profession.

To minister to the body as does the church to the soul is the mission of the physician. He must gauge his technique by the individual but his creed must remain intact. And in the famous oath of Hippocrates the ethical physician finds his rules of conduct and his rules of the road.

One of the fundamental precepts of this creed is the sublimation of the profession's ideals and the effacement of the individuals of the profession.

One of the fundamental criticisms uttered by the laity in its attempts to interfere with the medical profession and its questions of ethics is that the profession takes affront and exception to those of its members who deny the professional tenet and insist upon self exploitation rather than ethical effacement.

Ethics of the medical profession has become a shining target for every uplifter, soap-box orator or lampooning pen. A certain set of scribes has discovered in the medical profession and its creeds and tenets and dogmas and etiquette a gold mine for exploration and exploitation. We find the ethical standpoint of the profession brought to the bar of public opinion for a thousand so-called sins. Every magazine on the news stand almost without exception has something to say about what the medical profession does or does not do. One of its most flagrant sins would seem to be that it "does not advertise" and fails to set its seal of approval upon quacks and charlatans and fakirs who do.

Another claim is that it does not take into full confidence on every detail the world and his wife, the patient and the patient's great aunt Sally and all the neighborhood gossips. With some regard for the truth of the old maxim that you cannot "put a quart of milk in a pint cup," the medical profession has consistently refused to try to explain to the laity those things that they neither could understand nor should be allowed to concern themselves with.

It is not the physician nor the physician's methods that this lay criticism is directed against. Rather is it a protest that there remains in this world a certain fellowship and a certain science that holds and guards as sacred a few human institutions, and a few human sciences. We live in a world today that demands all veils shall be lifted, no matter what the consequences, and bitter indeed is the punishment meted to the man or to the profession, that serene in its knowledge that some veils cannot and must not be lifted, refuse to do so.

TO CREATE AN A. M. A. COUNCIL ON MEDICAL ECONOMICS

At the Detroit meeting of the American Medical Association Dr. J. B. Harris, California, submitted resolution from the California State Medical Association providing that the American Medical Association should establish a council on medical economics. The resolution was referred to the reference committee on reports of officers. The reference committee recommended "that the Board of Trustees put the principle into effect by the creation of a bureau of medical economics."

This resolution has wonderful possibilities, it will provide a forum of investigation and data collection that will be found extremely valuable to the medical profession throughout the United States in our campaign of enlightenment of the general public.

WE SHOULD SCRUTINIZE CAREFULLY BEFORE LENDING OUR MORAL AND MATERIAL SUPPORT TO THE THOUSAND AND ONE AGENCIES TO THE PHYSICAL AND MORAL UPLIFT

"By the ever increasing tendency towards paternalism we are not only not teaching self-dependence but are steadily weakening character

in the individual. We are robbing him of the habit of the necessity for the thought of tomorrow, permitting him to slumber on thoughtlessly through today. In the last analysis we shall find that this has not been a salutary practice. * * * It is our sacred duty to think long and scrutinize carefully before we lend our moral and material support to the thousand and one agencies for physical and moral uplift."

WILLIAM GERRY MORGAN, M. D., President,
American Medical Association.

DOCTORS COMPENSATION IN RUSSIA

Medical treatment in soviet Russia is no longer private; patients must see state doctors. Those who are not classified as workers will pay a special fee. The average doctor receives a salary of 100 rubles (\$50.00) a month. Most of the medical students in Russia today are women.

THE PRESIDENT OF THE AMERICAN FEDERATION OF LABOR SAYS THE DOLE SYSTEM DEVELOPS A PA- TERNALISM THAT IS DEMORALIZ- ING AND DESTRUCTIVE

William Green, president of the American Federation of Labor at Atlantic City, New Jersey, September 8, said: "It is only one step from compulsory employment insurance to the Dole.

"The best, the real remedy for unemployment is employment," he said. "The obligation rests upon industry to provide employment for men and women willing to work. The dole system embodies a vicious principle, in that it attempts to provide relief by supplying only the minimum of subsistence.

"Besides the dole system develops a paternalism that is demoralizing and destructive. It stifles ambition, destroys initiative and blasts hope."

ADULT DISEASES IN FIRST RANK

Diseases of middle and old age appear to be crowding the scourges of childhood out of the picture. Ten diseases, chiefly adult afflictions, were responsible for 74 per cent. of all mortality in Illinois last year, according to Dr. Andy Hall, State director of public health.

Heart disease led the list. Next came kidney

ailments and then cancer. This group takes its toll chiefly from the ranks of those over 40. Pneumonia, fourth on the list, and "accidents," which are fifth, are the only causes of death listed which affect all age groups practically alike. Prominent among the other adult diseases are cerebral hemorrhage, tuberculosis and diabetes.

Medical science has made great strides in eliminating diphtheria, whooping cough, scarlet fever and measles, the common afflictions of childhood. The next step is to develop means to combat the diseases of later life.

MOST ACCIDENTS TO CHILDREN OCCUR IN RURAL SECTIONS

FATAL SICKNESSES REVERSE ORDER BY PREVAILING IN BIG CITIES

Accidents are the greatest of all fatal hazards to children of school age in Illinois and occur nearly twice as frequently downstate as in Chicago, says Dr. Hall.

"Last year 832 fatalities among children from 5 to 19 years old were ascribed to accidents, against 551 to tuberculosis, the next most important cause of death," Dr. Hall said. "The accident rate is highest among grade school pupils, while that from tuberculosis is highest in the high school group, especially among the girls.

"The fatal accident rate among school children downstate was 12.6 per 100,000 population last year, and in Chicago it was 9. The rate from tuberculosis, on the other hand, was 9.7 in Chicago and 5.4 downstate.

"Five causes, accidents, tuberculosis, heart disease, diphtheria, appendicitis and pneumonia, ranking in importance in the order named, were responsible for nearly two-thirds of all mortality among school children last year. Most of these are subject to prevention or cure with proper medical care.

"All five, except accidents and appendicitis, are noticeably more frequent in the densely populated cities than in the smaller communities and rural districts," Dr. Hall said. "The appendicitis rate is the same among urban and rural children, indicating that environment and not the character of medical care available explains the difference in the rates from the other causes named.

DR. JOHN R. NEAL MADE PRESIDENT OF THE NATIONAL UNDERWRITERS

Dr. John R. Neal, chairman of the Illinois State Medical Society Legislative Committee, at the recent meeting of the National Underwriters was made President of the Health & Accident Underwriters Conference for the coming year. Dr. Neal has served for several years as medical director of the Abraham Lincoln Life Insurance Company of Springfield, Illinois. He has long been active in insurance affairs and is regarded as an especially able accident and health underwriter. He has been equally prominent in medical as well as in insurance circles.

After his graduation from Northwestern Medical College in 1909, he entered the United States Public Health Service and was later for a time in private practice, becoming medical director of the Commercial Health & Accident (later consolidated with the Mutual Life of Illinois) on its incorporation in 1914. He was one of the original directors of the Mutual Life of Illinois, now Abraham Lincoln Life, when it began business in 1916.

Dr. Neal's insurance activities were interrupted by the entry of the United States into the war in 1917 and he was one of the first physicians called to the colors. He served with distinction in France and since his return in 1919 has devoted all of his energies to the offices of secretary and medical director of the Abraham Lincoln Life.

MEMBERS WISHING TO READ PAPERS BEFORE THE SURGICAL SECTION ILLINOIS STATE MEDICAL SOCIETY

Those wishing to read papers before the surgical section of the Illinois State Medical Society at its next meeting in May, at East St. Louis, will please communicate with the officers of the Section—Dr. J. Bacon, Peoria, Illinois, Chairman; Dr. J. T. Gregory, 826 E. 61st St., Chicago, Illinois, Secretary.

DOCTORS WISHING TO READ PAPERS AT THE RADIOLOGICAL SECTION ILLINOIS STATE MEDICAL SOCIETY

The program for the meeting of the Illinois Medical Society is now in the process of devel-

opment. Anyone desiring to appear on the program in "Radiology" please correspond with Dr. Henry Grote, Bloomington, Illinois, or Dr. E. L. Jenkinson, St. Luke's Hospital, Chicago, Illinois.

DOCTORS WISHING TO PRESENT PAPERS BEFORE THE SECTION ON PUBLIC HEALTH AND HYGIENE, ILLINOIS STATE MEDICAL SOCIETY.

Members desiring to present papers before the section on Public Health and Hygiene at the East St. Louis meeting, May 1931, are invited to communicate with the undersigned officers. Since the copy of the program must be in the hands of the publisher not later than March 15, 1931, it is essential that the program material be ready not later than February 25, 1931.

DR. CHAS. H. MILLER, Chairman,
826 East 61st Street, Chicago.
DR. ARLINGTON AILES, Secretary,
La Salle, Illinois.

Correspondence

I KNOW ONLY TOO WELL WHAT I MEANT BY THE WORD PROMIS- CUOUS FREE SERVICE

Wheeling, W. Va., Oct. 3, 1930.

The West Virginia Medical Journal

To the Editor:

I received your issue for July and was highly interested in the very able editorial that you allowed my article to be the subject.

As you write on I can easily see you are interested in the philanthropic side of medicine. As my article said, "Had we collected our accounts and had NO PROMISCUOUS free service."

I had a day nursery and was connected with two free clinics for many years and I know only too well what I meant by the word promiscuous. I can well see, too, that the men who worked along in them have not had any ample rewards while those who avoided them have often had more respect granted to them. This solves no ethical problem, of course, but it has had a big effect on economic medicine.

Following the writing of this article "Descartes Was Right," I appeared in many cities

but I was never able to amplify the original address.

However in Milwaukee the other day talking before their State Society on the general program, I discoursed on the general practitioner. I fancy you feel this subject is rather threadbare and so it is, but if it is ever published in their state journal I hope you will read it and give me your unbiased opinion. Because although this is a threadbare subject, I am trusting you may find it of slight value not in any great literary merit—it has none—but in stating without any attempt at concealment the actual situation with that personage. I would not say this to you had it not been said to me. I mention it to you because in reading over your journal I came across a report by Dr. Harold M. Camp on the meeting of A. M. A. at Detroit. The paper at Milwaukee took up the matter of how the American Medical Association is very largely beyond the rank and file to control. It is on this I shall at some time or other welcome your opinion, either for or against.

Thanking you again, I am,

With best wishes, *

HARRY M. HALL, M. D.,
Associate Editor.

REPORT OF SEVENTH ANNUAL MEETING OF THE WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION

Meeting held at Detroit, Michigan

June 23 to 26, 1930

Mrs. George H. Hoxie, President, Presiding

Members attending meeting.....	187
Delegates attending meeting.....	79
Alternates	20
Attendance from Illinois (Members).....	16
Guests from Illinois.....	10
Delegates from Illinois.....	5

Auxiliaries organized in 37 States—10 States not organized.

The State of Pennsylvania has the largest membership, having 1688 members. There are 67 counties in Pennsylvania, 34 of which have Auxiliaries.

Listed Membership in the National Auxiliary...12,100
Paid Membership—June 16th, 1930.....10,220
(Seven States did not send in their list of members).

2,255 Copies of By-Laws were sent out.

2,000 Copies of Study envelopes were sent out on Physical Defects.

32 Medical Journals published Auxiliary articles.

The following resolutions were adopted:

1. *Resolved*, that all State Treasurers be instructed to pay their national dues on the last day of the fiscal year of their respective State Auxiliaries.

2. *Resolved*, that in future new State Auxiliaries pay an initiation fee of \$5.00 in order to obtain representation at their first national convention, thereafter paying full dues at the close of their fiscal years, as heretofore provided.

3. WHEREAS, the study envelopes have been enthusiastically commended by the Advisory Council of the American Medical Association and whereas those State Auxiliaries which have used them have found them of great value, be it resolved that their use be continued and that all State and County Auxiliaries be urged to appoint Study Program Chairman, and that these chairmen get in touch immediately with all Presidents and Presidents Elect of State and County Auxiliaries in order to secure the full advantage of their use as program material.

4. *Be It Resolved* that the Hygenia Committee be instructed to leave to the discretion of local Auxiliaries the advisability of soliciting individual subscriptions, but that we continue to push Hygeia as an instrument of health education by realizing funds from benefit entertainments or otherwise and by applying those funds to the purchase of subscriptions to be presented to teachers, libraries, legislators and other groups; and that we continue to acquaint other women's organizations, leaders of youth, superintendents of schools, etc., with the magazine.

5. WHEREAS, the Auxiliary Primer issued by the Medical Society of the State of New Jersey is the most comprehensive presentation of the aims and objectives of this organization containing as well quotations from eminent members of both the Medical Society and the Woman's Auxiliary regarding the need for a Woman's organization, be it resolved that the wide use and distribution of the Primer be strongly recommended throughout our entire membership.

6. WHEREAS, Parent-Teacher Associations, Federated Clubs, the League of Women Voters and the Auxiliary to the American Legion and other similar organizations are influential in their various civic and educational capacities, be it resolved that the Auxiliary to the American Medical Association urge upon its component state auxiliaries the advisability of participation through individual membership in the various activities of the aforementioned organizations with a special view (1) to the promotion of their health programs and (2) to cooperation in the public health projects of their Boards of Health.

7. WHEREAS, the annual meeting of the Woman's Auxiliary to the American Medical Association is always a great inspiration and stimulation to those in attendance, be it resolved that the component State Auxiliaries be urged to make possible the attendance of their Presidents or Presidents Elect by payment of all or part of their expenses.

SUGGESTIONS FROM THE NATIONAL AUXILIARY TO THE STATE AUXILIARY

Each State to have an advisory board appointed from State officers of State Medical Society.

All bulletins, letters and pamphlets sent out by Counties should go through State President's office.

Urge P. T. A. organizations to have a doctor's wife, who is a member of the Auxiliary, on Committee.

Chairman of Public Relations to have contact with National Chairman and notify Counties of their work.

State Study program chairman to advise all County Elect Presidents to study envelopes.

Immediate cooperation with State Chairman in answering letters. Please send names of members in promptly for complete list to be filed in card record in President's office.

Doctors favor educational program so we may educate ourselves to public health questions and problems of the Medical Society of today.

No State in arrears of dues shall be entitled to representation at the general meeting. New Auxiliary can pay initiation fee of \$5.00 for representation at general meeting.

March 31st Fiscal Year of National Auxiliary.

OFFICERS

Pres.—Mrs. J. Newton Hunsberger, 514 W. Main St., Norristown, Pa.

Pres. Elect.—Mrs. A. B. McGlothlan, 821 N. 24th St., St. Joseph, Mo.

Rec. Sec.—Mrs. Arthur T. McCormick, Brown Hotel, Louisville, Ky.

Corresp. Sec.—Mrs. H. C. Podall, 622 Swede St., Norristown, Pa.

Treas.—Mrs. Fred L. Adair, 5844 Stony Island Ave., Chicago, Ill.

VICE-PRESIDENTS

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President.

Woman's Auxiliary to the Ill. Medical Society.

DEATH OF GEORGE S. DAVIS

Parke Davis and Company announce the death, on October 1, of George S. Davis, one of the men to whom the house of Parke, Davis and Company owes its corporate name. Mr. Davis, who was 85 years old, and who had been in poor health for a considerable period, retired from active business efforts over thirty years ago.

A native of Detroit, he began his business career as a clerk in a retail drug store. Later he engaged in the wholesale drug business, and then, in 1867, he associated himself with the pharmaceutical manufacturing concern of Duffield, Parke & Co. In 1871 Dr. Duffield retired from the company and the firm name became Parke, Davis & Co., with Mr. Davis occupying the position of general manager.

He was a member of the Masonic order and of the Sons of the American Revolution. His grandparents, both paternal and maternal, took part in the Revolutionary War.

ABBOTT LABORATORIES AND SWAN-MYERS COMPANY JOIN FORCES

In order to enlarge the strong research facilities and personnel of both companies, to expand the sales organizations and increase the distribution of their ethical pharmaceutical products, the Abbott Laboratories of North Chicago, Illinois, and the Swan-Myers Company of Indianapolis, Indiana, have agreed to combine their resources and consolidate their management. This combination brings into one enlarged organization two groups of people actuated by the same high stand-

ards in ethics, scientific research and controlled manufacture.

Alfred S. Burdick, president of the Abbott Laboratories, states that among those to join the active management of the combined companies in North Chicago are R. M. Cain, who will be vice-president, in charge of sales; Edgar B. Carter, director of biological laboratories, and O. C. Durham, in charge of pollens and allergy products; A. E. Snyder, C. R. Jackson and others.

The Swan-Myers business was organized in 1909. It has grown very rapidly and enjoys a fine reputation for its high class line of ephedrine products, bacterial vaccines, ampules, pollens and pollen extracts and intravenous solutions, dextrose and other ampules, ophthalmic and nasal ointments, glandular and kerakote products and other specialties. Its ephedrine inhalant "66" was the first plain inhalant to be accepted by the council on pharmacy and chemistry of the American Medical Association.

E. H. Volwiler, chief chemist of the Abbott Laboratories, becomes a member of the board of directors; also James F. Stiles, who has been elected treasurer and Edmund L. Drach. S. DeWitt Clough became vice-president, and F. W. Scheigert, secretary. The laboratories of the Swan-Myers Company will continue to be operated in Indianapolis until further notice.

MILK INJECTION IN PELVIC INFECTION

Foreign protein therapy has been proved to give good results in many cases of infection. Based on experience in 22 cases of pelvic infection, Dr. P. M. Murray, of New York, in *Am. J. Surg.*, reports that:

1. Milk injection is a valuable adjunct in the conservative treatment of pelvic infection.
2. It is without uncomfortable local or systemic reactions, except in a very small percentage of cases.
3. Marked increase in the total leukocyte count and a corresponding increase of the polymorphonuclear count is the rule; in 77 per cent of cases, the temperature promptly returned to normal after milk injections.
4. Definite clinical improvement was noted in 60 per cent of cases.

The average number of injections given was 4.8. Ordinary ice-box milk is used, boiled for 10 minutes in a sterile test tube in a water bath.—*Clin. Med. and Surg.*

PREGNANCY AND LABOR COMPLICATED BY GRANULOMA INGUINALE

Lester A. Wilson, Charleston, S. C. (*Journal A. M. A.*, Oct. 11, 1930), reports the analysis of fourteen cases. It seems that there is a tendency to stillbirth and death of infants in granuloma inguinale. Granuloma inguinale is not of venereal transmission, as none of the husbands of these patients were diseased. The Negro race is far more susceptible than the white race. Under the influence of pregnancy the disease progresses rapidly, probably owing to the congestion of the parts: after labor the condition tends to improve. This series

of cases shows that the uterus if not traumatized or infected by handling can take care of a great deal of infection.

A SELECTED PUBLIC HEALTH BIBLIOGRAPHY WITH ANNOTATIONS

RAYMOND S. PATTERSON, Ph. D.

Reporting on BCG—This preliminary statement of the effect of vaccinating children exposed to tuberculosis is eloquent of the care being taken to make the study scientifically significant.

Anon. Present Status of BCG Vaccination Against Tuberculosis. *Weekly Bull.* (New York City Dept. of Health), 19, 22: 173 (May 31), 1930.

The Children's Hour—The Health Commissioner of New York City proposed that physicians designate an hour at which they will examine well children and give advice to mothers. The physicians are urged to set a fee and permit their names to be listed. An eminently sensible scheme.

Anon. Preventive Medicine and Private Physicians. *Weekly Bull.* (New York City Dept. of Health), 19, 24: 189 (June 14), 1930.

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Aycock, A. L., and Kramer, S. D. Immunity to Poliomyelitis in Normal Individuals in Urban and Rural Communities as Indicated by the Neutralization Test. *J. Prev. Med.*, 4, 3: 189 (May), 1930.

Uterine Cancer—The part played by interference with labor in the production of uterine cancer is convincingly portrayed, and the obvious preventive measures are ably discussed.

Bland, P. B. Remarks on the Prevention of Uterine Cancer. *New Eng. J. Med.*, 202, 25: 1195 (June 19), 1930.

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Britten, R. H. Occupational Mortality as Indicated in Life Insurance Records for the Years 1915-1926. *Pub. Health Rep.*, 45, 22: 1250 (May 30), 1930.

Syphilis Incidence Among Negroes—Blood Wassermanns performed upon a large and unselected group of rural negroes over 9 years indicate an incidence of 19.3 per cent of all males and 18 per cent of all females.

Carley, P. S., and Wenger, O. C. The Prevalence of Syphilis in Apparently Healthy Negroes in Mississippi. *J. A. M. A.*, 94, 23: 1826 (June 7), 1930.

Anti-tuberculosis Program—The future program differs from the present in intensity rather than kind, and we must continue to build more solidly on the same foundations upon which we have built for the past quarter century. So concludes the Managing Director of the N. T. A.

Emerson, K. Where Are We Going in Tuberculosis

Control? *New Eng. J. Med.*, 202, 22: 1039 (May 29), 1930.

Mississippi Milk—The adoption of a standard milk ordinance in Mississippi has given three-quarters of the state's urban population milk of high sanitary quality and increased milk consumption.

Fuchs, A. W., and Kroeze, H. A. Results of the Operation of the Standard Milk Ordinance in Mississippi. *Pub. Health Rep.*, 45, 25: 1412 (June 20), 1930.

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Hess, A. F., *et al.* Newer Aspects of the Therapeutics of Vioosterol (Irradiated Ergosterol). *J. A. M. A.*, 94, 25: 1885 (June 14), 1930.

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Macy, I. G., *et al.* Human Milk Flow. *Am. J. Dis. Child*, 39, 6: 1186 (June), 1930.

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Gonorrhea Prevention—The status of gonococcus infection, what we are doing about preventing the spread of the disease, and what we ought to be doing about it are all excellently told.

Pelouze, P. S. The Prevention and Treatment of Gonorrhea. *New Eng. J. Med.*, 202, 26: 1233 (June 26), 1930.

ADMINISTRATION OF THIONIN AND METHYL VIOLET IN INTESTINAL BRUCELLA INFECTION

The dye was administered by Hugh R. Leavell. Mary A. Poston and Harold L. Amoss, Baltimore (*Journal A. M. A.*, Sept. 20, 1930), to three patients showing a persistence of *Brucella* in the stools, in the form of pills coated with phenyl salicylate, from 25 to 200 mg. being given in the course of twenty-four hours. At the same time, a retention enema of 300 cc. of from 1:25,000 to 1:100,000 of the dye was given daily following a soapsuds enema. The dyes were given for approximately a week at a time, and during periods between courses of dye cultures were made of the stools daily. Slight constipation was the only symptom that could possibly be attributed to the use of the dyes.

Society Proceedings

THE COUNTY MEDICAL SOCIETY—ITS DUTIES AND RESPONSIBILITIES IN RELATION TO PUBLIC HEALTH*

ARLINGTON AILES, M. D.

LA SALLE, ILL.

I wish to qualify firstly by stating that, before becoming a whole time health officer, I had practiced medicine for eleven years, and that I have always tried to retain the view point of the practicing physician. I have also gained a new view point, namely, that of the health officer; and being a health officer, I believe that I have also gained some insight into the view point of the average layman. These view points are apt to differ radically, and the conscientious health officer finds himself about in the middle of them. He finds himself wishing that the medical men as a whole could see more of his problems and lend more sympathetic aid in helping him solve them. He sees the tendency of misguided and unrestrained leadership among lay groups in public health. By close association with large numbers of the common people, and innumerable visits into their homes and conversations with them he senses that, were the issue to come to a vote under powerful leadership, they may change the existing order in medicine.

With the coming of the radio, good roads and good schools everywhere, public health is going forward with leaps and bounds. All magazine and newspaper editors realize it so that one can hardly pick up a paper any where without finding an article on public health. It seems to me to have gained such an impetus that to oppose it or to appear to oppose it will react fatally to any group doing so.

The profession is attempting to do their part by assisting in the proper health education of the public, through radio talks, newspaper articles, and their speakers' bureau, but I do not believe they go far enough in their leadership. To really lead, one must become a part of the throng and never get so far ahead that he is lost sight of. He must remain with them and appear sympathetic. It is then he has a chance

to lead. If he waits until the views of the crowd are so radical that he cannot accept them, even in part, then his chance for leadership is gone forever. Frankly, I believe that I am ready to state that many people believe right now that organized medicine is opposed to public health, as they construe it. They are suspicious of the motive behind what they term propaganda. They misconstrue the opposition to the Sheppard-Towner Act, the County Health Officer Bill, etc. All this is leading up to some suggestions that I have to make.

I do not believe that county medical societies can assume any consistent, sustained relationship or leadership in public health without themselves selecting a leader. This leader should be one of them, selected by them and guided by them, in the interests of public health. I refer to a county health officer. If the profession does not get behind a bill making this possible, I believe most of us will live to see the day when we will have to accept such a bill not wholly satisfactory to us. As I have previously said; the radio, good roads, newspapers, magazines, telephones and the ease of social intercourse are going to take away the distinction of urban and rural and merge us into a homogenous people. Mass psychology may gather force like a mob spirit and plunge us into some ill considered, impractical legislation that will be hard to correct. I was practicing medicine in Ohio in 1919 when the Hughes Bill, creating county health departments was passed in Ohio. It came suddenly, and as I remember was passed almost unanimously, yet had to be amended two years later and was almost repealed in the reaction. I believe now that they have a practical working law, free from politics in so far as the local health officers are concerned. The county health officer must be a physician in good standing. He works for a board of health consisting of five members, at least one of whom must be a physician. Their terms are for five years and are so arranged that one term expires each year. They receive no salary, hence only men of high character with a civic sense of duty accept the appointment. It is surprising that men of high character accept these posts and guard the trust as zealously as their own businesses. These men are appointed by the County Advisory Council, which is made up of the chairmen of the town-

*Read before the Secretaries' Conference, Illinois State Medical Meeting at Joliet, May 20, 1930.

ship trustees, and the mayors of the incorporated villages. This advisory council is likewise unsalaried, and by law are ordered to meet once a year for the purpose of advising with the health officer about conditions in their townships or villages, hearing the annual report of the health officer, and electing a member of the board of health. You can see how difficult it is for politics to get at the health officer. It would require three years of difficult political organizing among the members of the advisory Council, to change the complexion of the board of health, in order to oust the health officer. If the health officer cannot, by good work, ingratiate himself into the good will and confidence of his board in three years, he probably deserves to be ousted.

The health officer should be a physician and preferably one trained in public health. He should first be a physician however, and preferably one who has successfully practiced medicine and demonstrated his ability to get along well with his fellow practitioners. He must have their confidence, not be old or infirm, because the health officer's job in a county requires considerable activity and great endurance. One of the best health officers is one selected from your midst, who has been successful and in whom you can place confidence and trust. He will rapidly learn public health and practice it in a way that may best serve the community in which he works. Finally he should be paid a salary that will justify his time and energy.

The physicians then must be prepared to make some concessions to this man and his board of health. There will come up the question of school examinations, diagnostic clinics, etc. which if properly conducted are an aid to the physician's income instead of a detriment, besides a valuable public health procedure. Then comes the matter of immunization for smallpox, diphtheria, possibly scarlet fever and others. This I am sure can be worked out on a plan that will be of benefit to all concerned. The health department will do considerable immunizing but the physicians will do more than they ever did in their lives. Concessions like these will please the public, and retain their confidence in the altruism of the profession, yet will retain for the profession the basic elements of that profession. I believe the good sense of

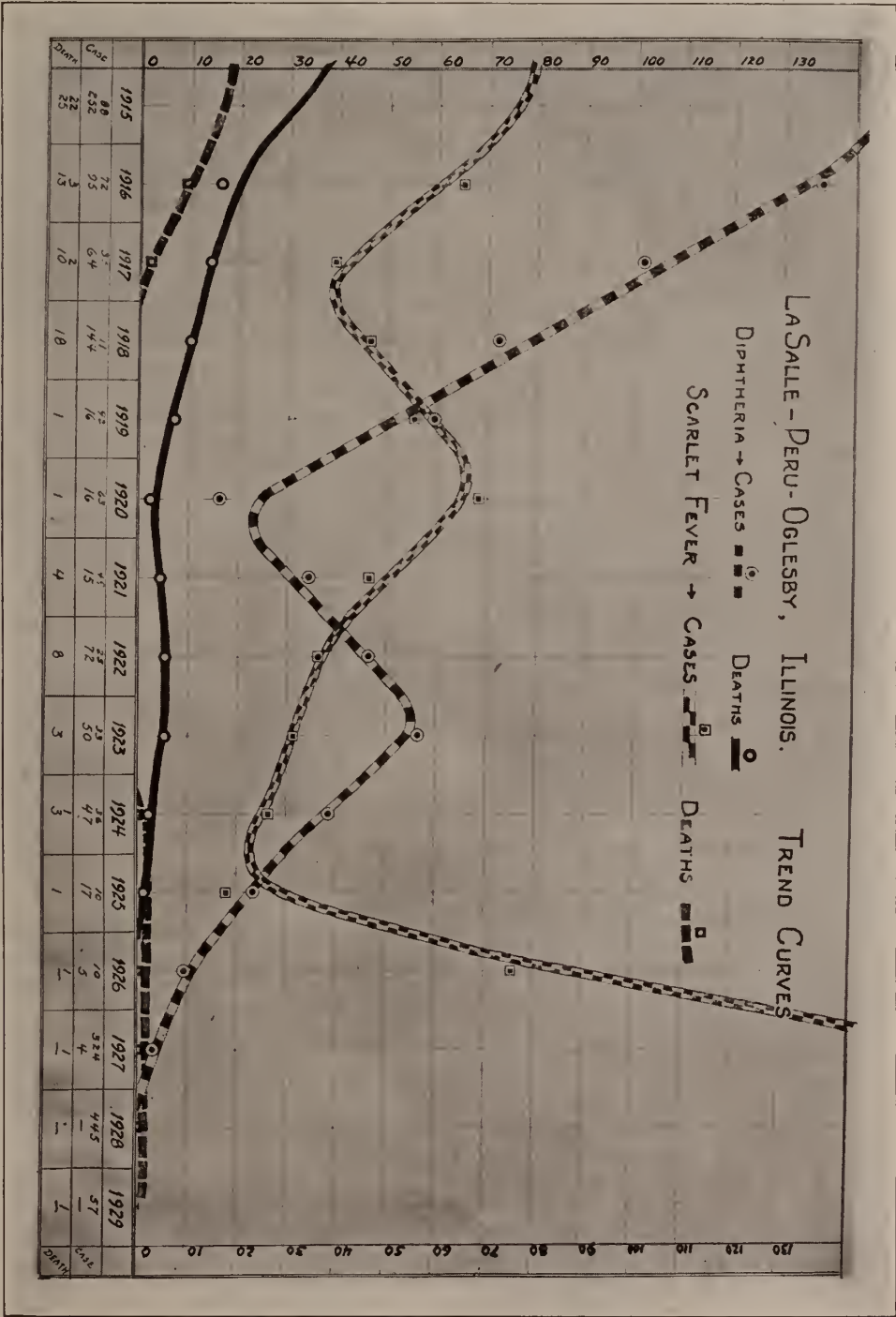
the American people will always grant to physicians the right to heal the sick and to charge a decent fee, providing their good opinion of the profession is properly nurtured. It is in this field of preventive medicine then that this nurturing can occur and in which both physicians and health departments alike should work in sympathetic understanding for the betterment of all. When the millennium comes, in which every physician is a health officer to his private families, then will there be no need for health departments, county or otherwise.

Another field of endeavor which I believe the county medical society should become interested in and participate in, is group advertising in the local press. Articles are never so interesting as when they have local color. Even if the articles were prepared by the state or national association, if they were dressed up locally by a local committee, they would be of much more value. If they were general, the editor would probably be glad to get them, and accept them free. But the profession needs to assert scientific medicine in a positive way—a way that will pointedly lead the public away from patent medicines, cancer cures, and a host of other fakes that are fooling the public and robbing them most of the time, of their only chance of cure. There probably should not be any negative advertising against the opposition types of practice or the so-called cults, but strong positive statements of the basic principles and soundness of scientific medicine, together with the broad training required to practice it, the right to a decent fee, and a hundred and one other sound arguments, will educate the public and keep them in line with scientific medicine. The writer frequently feels the urge to combat, by word of mouth, the public press, and otherwise, practices that are not in the interest of the public health and scientific medicine, but he is a servant of the whole people, and knows that he and his board of health would be waited upon by an indignant delegation of the interests offended. It is here that I have often wished that the county medical society itself would educate the public through paid advertising.

Another advantage I see in this connection is that the, now not unfriendly, editor would become more actively friendly. The power of the press is tremendous and I think anything that

will cultivate their active friendship is advantageous, and especially so in unfriendly legislation. Newspapers are also often annoyed by medical societies passing resolutions that the in-

courteously by the doctors themselves. Reflecting the view point of the press, one editor told me not long ago that "This stuff is news and I am going to get it some way and print what



dividual members should, so far as possible, keep their names out of the papers in connection with surgical operations, accidents, etc. These things are news, and had best be given the local papers

I get." We can hardly blame him for his view point, and for publishing what he gets, even though it may be erroneous and obtained from misinformed sources.

In conclusion, from my experience, I think the responsibilities listed are major, and that the profession should make some concessions, either in whole or in part along these lines. Scientific medicine is based on sound principles, and on them has shown like a light of truth for ages. Around this light from time to time the cults and isms have flown, singed their wings, fallen and have passed from existence. It is up to us to keep the light burning ever brighter, and not risk its being dimmed in the slightest by the force that supports it—public opinion.

DISCUSSION

Dr. C. S. Skaggs, East St. Louis: I believe absolutely in what Dr. Ailes has said. Some of his remarks brought the thought of what we have in the State Educational Committee. I believe we have a wonderful opportunity of bringing before the public of our state the proper care of the sick. It is my policy to talk friendly to people about whom they should have take care of them. Some day they may have better care, but until that time they should have us. I have not beaten about the bush in discussing the matter. The doctor is the man who must think for them in these questions, and we must have money enough to get education and keep up our standing as professional men. I have frequently spoken of doctors being underpaid, and I believe it has found virgin soil. If we would take time to read up on things medical we would not have the wrangling over non-medical things in our clinics.

Dr. W. H. Smith, Benton: Dr. Ailes referred to the fact that the medical profession was spreading the good news of health over the radio, by lectures and by other means. That is true. A great deal has been accomplished. But we have, down in southern Illinois, a few doctors who will send their names in with the suggestion that they will talk before the public and then go home and fail to report a case of scarlet fever or some other condition because of the prestige of the patient's family. Or they dispute some other ethical physician's diagnosis because of personal feeling. A doctor has no more right to bootleg scarlet fever or smallpox than the hunky in the backwoods has to bootleg home brew. Are we positive enough in our statements to our patients? We all know that by dilly-dallying around we allow many patients to slip out of our hands and land into those of the chiropractor, whose positive diagnosis will cause the patient to recover.

A couple of years ago we had a gentleman from Chicago lecture the county medical society, and before his coming I ordered from the American Medical Association their pamphlet on periodic health examinations together with blanks. There were enough to furnish each of our members one of these two weeks before the lecture, but by the time the lecturer came, two-thirds did not know where to find their health blanks.

You are perfectly correct about the periodic health examination. When a Chicago man gets through with a full physical examination he charges \$36.50, and almost invariably his patients return.

Down at Carbondale they have trouble in having the incoming students even vaccinated against smallpox. There was an outbreak within the last year or so, and on securing the vaccination status of the students, twelve hundred at that time, less than fifty per cent. were found to be protected against smallpox.

Dr. I. F. Harter, Stronghurst: I would suggest that we lose no opportunity to educate the laity. During health week our little society in Henderson County had a very interesting meeting of the laity, addressed by an excellent speaker, who discussed the handicaps of school children and the prevention of scarlet fever and typhoid. It was very instructive and the comments were very favorable. Such discussions with the laity are not only to their advantage, but to physicians as well.

Dr. D. D. Monroe, Edwardsville: I am interested in the earnestness with which Dr. Ailes presented this paper. One point cannot be stressed too frequently. The medical society should lead in all health matters. We have sat by for years and years, content with practicing curative instead of preventive medicine. We should practice both. No intelligent layman thinks he can practice medicine better than a doctor. We are trained, he is not, and he know it. If we are deeply interested in our patients and talk and practice positive medicine saying nothing about the chiropractor in public, we will minimize lay interference.

A friend of mine went to five physicians and asked for a periodic health examination. Four of these men examined his heart through his clothing; one stripped him to find out what was the matter. The four practiced rotten medicine, and you know it. I have seen life insurance examinations made that way. It is not fair to patients. They lose confidence in us. If we practice as we preach they will continue to believe in us.

Dr. N. S. Davis, III, Chicago: The question of advertising by county societies has been discussed off and on for several years. It could be done relatively inexpensively in some counties, but in Chicago, the expense, \$40,000 or \$50,000 would make it prohibitive. If the plan used in New York last autumn were adopted in which, out of a budget of about \$30,000, the medical profession contributed about \$2,000 and various health boards, insurance companies, and philanthropic foundations the balance, it might be feasible. It would do no harm to put before the public in the proper way the things that have been difficult to get into the newspapers in most communities.

As preventive medicine is diminishing the amount of illness, something must be done to make up for this loss of business. An increase in the number of health examinations will accomplish this. Health examinations will give the physicians an income to take the place of that derived from illnesses we no longer have and will make possible the early diagnosis of diseases

which otherwise might not be discovered until so far advanced that relief is impossible. From the economic viewpoint both of the physician and of the public, health examinations are of great importance. Publicity and advertising will best sell them to the public. Either is relatively expensive so the profession will have to think it over carefully before society dues can be raised to a point to make either possible. It is now possible to get a certain amount of free time over the radio, usually at a time when relatively few people are listening. If we could persuade some organization to regularly boost health examinations in the way the Pepsodent Company boosts periodic dental examinations in connection with their Amos and Andy program, it would help and a great deal of headway could be made.

Dr. Emmet Keating, Chicago: I think all physicians in Illinois agree that the work of the Lay Education Committee has done more than any one thing, to arouse the interest on the part of the public in periodic physical examinations of both the sick and apparently well. The activities of the Lay Education Committee, for the years it has been in existence, are noted for good taste and the broadcasting of talks in keeping with medical facts and generally accepted opinion. This is largely due to the Committee's established rule of censoring all proposed talks. Few physicians are experienced speakers, and their own, as well as the public interest, is safeguarded by receiving the advice and counsel of the members of the Committee.

There is one factor that has retarded the progress of the work of the Lay Education Committee, namely: that periodical and complete physical examinations have not been sold to the medical profession. As one of the speakers in this conference has just pointed out, a great many physicians listen to hearts and lungs with the bell of the stethoscope on the outside of the patient's overcoat. There is small hope of that type of physician ever doing a complete physical examination.

Probably the greatest reason why doctors do not want to give health examinations is because they do not believe they can convince their patients that they can do something for them that is worth more than continuous office calls. The doctor who has not the courage of his convictions and who is not willing to take and to give the time necessary for the making of a complete physical examination, because of fear of incurring the patient's ill-will and contempt for trying to sell him something he does not want and is not convinced that he needs, will not increase the number of periodic health examinations.

We cannot hope to sell this idea until we can convince doctors that the practice of medicine has changed considerably; that no longer can they hope to depend upon acute illnesses for their year's income and that they must strive to prevent disease by careful examinations and continuous supervision of their patients.

Dr. Arlington Ailes, La Salle (closing): I have noticed in my work that some school teachers seem to wish to block public health work, and I think that

is another field where the medical societies might be interested—in boards of education, etc. It seems we have all kinds of intelligence—a banker will not often make a mistake in finance, but he has little medical intelligence. A physician will not often make a mistake as to proper diagnosis and treatment, but often makes very bad financial investments. It seems that public school teachers, while enlightened and intelligent, make grave mistakes in scientific matters. A coach or athletic director will advise a chiropractor for minor injuries. I have had difficulty with that sort of thing. They do not seem to know anything about the fundamentals of scientific medicine, bacteriology, pathology, etc. I wonder if that could not be a field of interest, to see what could be done about the selection of teachers with the proper viewpoint.

THE CARE OF THE WOUNDED OF THE DIVISION IN THE FIELD*

JAMES J. MCKINLEY, M. D.

Colonel M. C., Division Surgeon 33 Division, Ill. Nat. Guard

CHICAGO.

The care of the sick and wounded in time of war and disaster is as old as history. It is not all an unselfish act. In time of a disaster our desire is to get as many injured as possible back to the productive walks of trade and commerce, as well as to prevent suffering. In time of war we must keep as many men on the firing line as is possible, as well as relieving pain.

When we canvassed the field to select a motto for the escutcheon of the 108th Medical Regiment, we ignored Aesculapius, we scorned Hippocrates, and we slighted Galen, and yet we honored them all by taking the Latin word "servamus" (we conserve). That motto really illustrates in full the function of the medical troops.

When an action is imminent the medical detachment of the infantry regiment carries its equipment as far forward as is possible in an ambulance; it is taken the balance of the way by wheel litter and by hand carry. A suitable spot at a point within 500 yards of the front line is selected in a protected area, and the Battalion aid station is put in operation.

Contact agents have already gone forward with the infantry company, and as soon as the engagement starts they contact the aid station and lead the first aid platoon out to the wounded, where dressings and emergency splints are ap-

*Read before joint session on Medicine & Surgery, Illinois State Medical Meeting, May 21, 1930.

plied and "emergency medical tags" attached to wounded. The litter bearer platoon of the medical detachment comes forward and carries the wounded back to the Battalion aid station, where dressings are adjusted and splints applied. Anti-tetanus serum is administered, recorded on the "emergency medical tag," and a cross of iodine placed on the forehead of the wounded to prevent the giving of a needless second dose. Where morphin is needed it is given and recorded on the medical tag.

Contact agents, having come forward from the collecting company of the medical regiment with the medical detachment, now go back to the collecting company and lead the litter bearers of the collecting company to the Battalion aid station, and the wounded are carried back to the collecting station. This carry is done with ambulances when possible. The collecting station has two large ward tents and a kitchen. Foods and cigarettes are given, dressings adjusted, and wounded given a chance to rest a while. This station is from 500 to 1,000 yards or more behind the front line, according to conditions.

The collecting company having been brought forward by the ambulance company, their location is known, and the evacuation is soon started to the hospital station, which has been established from five to ten miles in the rear of the firing line. The ambulance company has established an ambulance station a mile or so in the rear of the collecting station, and a shuttle system is started, so that for each ambulance that comes back from any collecting station, another is sent forward to take its place for that particular station.

At the hospital station, which has been established by a hospital company of the medical regiment, dressings are adjusted, food, cigarettes and necessary medicine are given. This is the rear of the divisional area as far as the medical aid is concerned. There has been assigned to the division by the army a surgical hospital, which is always placed at the division hospital station, and takes charge of those wounded that need immediate surgical attention and those who are unable to continue to the rear. Evacuation from this point is done by army ambulance to evacuation hospital, twenty to forty miles in the rear of the front line.

From the front line to the evacuation hospital, the things to be guarded against are too much handling and too much surgery. I have seen no good done by the surgical hospital that could not have been done by the division hospital station. I predict its elimination in the not distant future.

With modern roads and motor ambulances, there ceases to be such a thing as non-transportable wounded. I vision an ambulance picking up the wounded from the collecting station a few thousand yards in the rear of the front line, and transporting them to the rear of the division area, where the ambulance with its wounded will be turned over to the army in exchange for a fully equipped and serviced ambulance. This will give the minimum of handling.

Sorting of patients both as to degree and kind of wounds is started at the battalion aid station and kept up till they leave the division area.

Supplies are delivered from rear to front in exchange for those received with patients from front to rear. In this way a shortage at the front is prevented.

The Medical Regiment of the 33rd Division stands ready, and is the only mobile unit in Illinois fully equipped, to render aid to the civil population in any traumatic epidemic.

My slogan in the first 72 hours of a traumatic epidemic, as in the care of the wounded soldier from the front line to the evacuation hospital, is

The maximum of careful, intelligent nursing;

The necessary dressings, antitoxins, medicines and splints;

The minimum of major surgery and handling.

I will now show you a moving picture of care of the wounded from the time they receive their wound till they are started in the army ambulance to the evacuation hospital.

A SHORT RESUME OF SOME OF THE HISTORY OF ROENTGENOLOGY*

I. S. TROSTLER, M.D., F.A.C.R., F.A.C.P.

CHICAGO

This is the 35th year that we have had the roentgen rays, and it is within a month of the date of the original discovery as far as I am able to learn. Not much having been presented be-

*Chairman's address, Section on Radiology Meeting of the Illinois State Medical Society, May 22, 1930.

fore the State Society of a historical nature in regard to this subject, I am going to take up a little of your time in reading a resume of some of the more important events relative thereto.

The first occurrence of much importance, bearing directly upon roentgenology was the discoveries of Faraday in 1806. After passing electric currents into and through bell jars, and more or less exhausted tubes, he discovered changes in color and in resistance to the currents in the greater degrees of exhaustion.

This was further developed and reported on by Sir Snow Harris and Geissler in 1839, Maxwell in 1840, Sir William Thmopson, Sprengel and Gassiot in 1865, Hittorf in 1865, Goldstein in 1876, Warren de la Rue, Hugo Miller and Spottiswood in 1877 and others.

From 1877 to 1888 the intensive study, research and investigation of Sir William Crookes and his energetic students and coworkers resulted in the announcement by Crookes that matter was radiant. This rather startled the scientific world, and was really the first scientific showing that vacuum tubes produced or showed something that was not at that time known.

J. J. Thompson and Wiedman in 1888 followed closely by Hertz at Bonn investigated the electrical discharges in highly exhausted vacuum tubes. Leonard, assistant of Hertz, in 1894 proved the possibility of the cathode rays passing through the walls of the vacuum tube, while Elster and Geitel in Germany and Perrin in France reported the results of their research along the same lines at about the same time. There can be little doubt but that all these later workers produced x-rays and the time was ripe for the great discovery.

April 30, 1895, Wilhelm Konrad Röntgen, director of the Department of Physics of Wurzburg University, while experimenting with Crookes and Hittorf tubes discovered the x-rays; but did not report his discovery until nearly the end of the year. There are several versions regarding the actual way in which these rays were discovered as well as varying dates of the discovery.

Dr. T. S. Middleton, late of Chicago, was a student in the Department of Physics at Wurzburg at the time of Röntgen's discovery and gave me what I believe to be the correct version. He said, "Professor Röntgen was working with a

Hittorf tube covered with black paper, energized by a Ruhmkorff coil, and was studying the fluorescence of a barium-platino-cyanide screen on the afternoon of the last day of April, 1895. He was called away for a few minutes, and laid the glowing tube upon a book which contained a large, flat, antique key, which was being used for a bookmark.

"A loaded photographic plate holder was lying under the book. When he returned he shut off the current from the coil, disconnected the tube and placed it upon the rack, where he kept them. He then took the plate holder with several others and went out to spend the afternoon out of doors exposing several plates on wild flowers. Photography was his favorite hobby, and spring wild flowers his particular interest at that time.

"Returning late in the day, he developed the plates and found the shadow of the antique key on one of them. He wondered how this happened and questioned several of his students about it, but none could explain how it happened.

"Fogging of photographic plates which happened to be lying near energized vacuum tubes had occurred before in his laboratory, but to the scientific, inquiring mind of Röntgen this key shadow demanded immediate explanation. Remembering having placed the tube on the book, he replaced the tube as it was with a photographic plate beneath it, (as he remembered having found it) and energized the tube. Development of the plate showed the shadow as before. Soon afterwards he made a plate of his hand and at once began a thorough study of the phenomena. He realized at once that he had a new form of radiation and secluded himself so that little was seen of him for many months afterwards."

Röntgen apparently appreciated the great value that his discovery would be to the medical profession and on December 28, 1895, he presented his first paper on this subject entitled, "A New Form of Radiation" before the Wurzburg Physio-Medical Society.

Röntgen's address was greeted by prolonged applause. At the end of the lecture, the right hand of the Honorary President of the Society, Professor Rudolph Albert von Kölliker (a celebrated surgeon and anatomist) was extended to him, and he thanked the lecturer in the name of the Society for his address, stating that it was

unparalleled in the annals of the Society. The proposition to call the new rays Röntgen rays was unanimously adopted. Professor Von Kölliker opened the discussion and amplified Röntgen's suggestion of using the new rays for medical purposes. He said that the rich material of his clinic presented such a fine opportunity for the use of the new rays for the radiography of patients that he hoped Prof. Röntgen would cooperate with him in these experiments. At first thought it seemed to him that diseases of the bones and joints should be first investigated.

In closing Prof. Röntgen stated that for the penetration of the parts of the body that are much denser than the arm or leg, larger tubes than these would have to be constructed, and he was working on the problem. Which of the inner parts of the human body would be visible with these improved tubes could be only found out in time and after experiment. This he said would depend upon the degree of penetrability and the position of the organs in the body.

The chairman then closed this most important meeting by calling for three cheers for Röntgen and by thanking the essayist for having selected the Physio-Medical Society for the first presentation of his experiments.

On March 9, 1896, Röntgen made a further report before the same body and in 1897 he presented "On Further Observations of the Characteristics of the X-Rays" before the Royal Prussian Academy of Sciences in Berlin, but before this time the science of Roentgenology had acquired a sufficient start and hundreds of physicians and physicists throughout the civilized world were using the roentgen rays in diagnosis and treatment of human ailments.

And now, 35 years afterwards, how many of us fully realize how complete Röntgen's analysis was, how practically everything he said in that preliminary report has stood the test of thirty-five years and how little we have added in regard to the physical portion of Roentgenology to what he said in 1895. He discovered secondary radiation, proved that it was not reflected radiation, showed that these rays governed by and amenable to the same "inverse square law," as is light, and he even disclosed a defect in a metal casting and showed us how we would later be able to study crystallography. And *he accomplished all this without a focus tube*. Never was a prelimi-

nary report of any important discovery so complete and in effect so little changed or improved upon as this, and I have no hesitancy in saying that the name of Wilhelm Konrad Röntgen will never die.

Röntgen was decorated by Emperor William of Germany with the Order of the Crown of the German Empire. Ludwig, reigning Prince of Bavaria, bestowed upon him the Cross of one of the Bavarian Orders and a government decree made him Excellency. The University of Wurzburg conferred upon him the honorary degree of Doctor of Medicine. The University of Munich offered him a professorship. He was awarded the Barnard Medal by the National Academy of Science at Columbia University in New York City, and in 1901 received the Nobel Prize. His picture was placed in the Physical Institute, a tablet was unveiled and a boulevard in Wurzburg named in his honor. On the approach to the Potsdam Bridge in Berlin stands a most striking bronze statue of Röntgen seated.

His discovery of x-rays stands out in bold relief as a lasting monument more durable than stone to his energy and painstaking research, and the world will long remember Wilhelm Konrad Röntgen.

As soon as the announcement of Röntgen's discovery reached this country, numerous American physicians and experimenters began a period of activity in their laboratories which was probably never paralleled in the history of man. Many of them worked continuously for several days and nights trying to produce x-rays, and so many of them were successful that at this time it is difficult, if not impossible, to name any one person as having made the first roentgenogram in the United States or in this State.

Probably the first systematic x-ray work done in America was that of Dr. W. J. Morton of New York City in 1896 which was closely followed by Dr. W. Harvey King, also of New York. Outside of New York, Dr. Heber Robarts of St. Louis, and later of Belleville, Illinois, was probably the first, and he was the first to show a bullet in a man's heart. In February, 1896, Dr. Harry P. Pratt, located a foreign body in the hand of a patient and began the use of x-rays in the treatment of pulmonary tuberculosis. Early in 1896 Dr. F. C. Harnisch, an ophthalmolo-

gist in Chicago, after securing a six-inch induction coil from The McIntosh Battery Company, and several tubes from Germany began a series of experiments with the x-rays. He induced a Mr. W. G. Boehm, a local glass blower, to make additional focus tubes for him, and enlisted Dr. Peter J. Latz, who had been a chemist and had just graduated from medical school (a rather ardent amateur photographer) to do the photographic work with him. The apparatus was first set up at the home of Dr. Harnisch and much damage was done to the rugs, carpets and furniture by the chemicals used, until Mrs. Harnisch laid down the law and insisted that the laboratory be moved.

Nearly all the plates were so much overexposed—in order that the bones could be well seen—that reduction had to be done, and so much ferri-cyanide had to be used in the reducing process, that Dr. Latz was poisoned by it, and, therefore, compelled to sever his connection with the laboratory.

On account of the limited means of Dr. Harnisch, it seemed for a time as though the venture was to fail for lack of funds. At this time, about the end of April, 1896, the laboratory was moved down into the business part of Chicago where the city current could be had (batteries being used to energize the coil up to this time), and in June, 1896, Dr. Otto L. Schmidt was induced to finance the plant, and a Mr. Wolfgang C. Fuchs, an electrician and expert amateur photographer, was placed in charge. The plant then became known as the Fuchs X-Ray Laboratory and it soon became well known and was well patronized. One of the first, if not the first, of all cases of foreign body in the stomach was shown and studied by Fuchs and a group of Chicago physicians. Myrtle Hohman, a six-year old girl, had swallowed a tin whistle, and her parents, after refusing to have the child operated on, changed physicians and calling Dr. Frederick Schaefer. It was suggested by the patient's mother that they try the new rays before operation. The child was taken to Fuchs' Laboratory. The tin whistle was seen in her esophagus and later shown in her stomach, after she had eaten a biscuit which she snatched from a little friend because of her hunger and in due time was passed, and is retained as a valued memento of the case by the patient. This case attracted con-

siderable attention and received much newspaper publicity. Prints made from the plates are still in existence, but are considerably faded. I have reduced copies from them as well as newspaper write-up from the *Chicago Herald*. Incidentally, this patient is now my office nurse, and remembers much of the affair. Fuchs (or Prof. Fuchs as he became known) died after years of suffering from carcinoma induced by exposure to the x-rays and thus passed this pioneer Chicago roentgenologist.

The first hospital in America to equip for x-ray work was Hahnemann Hospital, Chicago, and Dr. Emil H. Grubbe was placed in charge. Later the Presbyterian Hospital in Chicago purchased equipment which was placed in the hands of Dr. Joseph F. Smith, who is now practicing medicine in Wausau, Wisconsin. Some considerable time later the Cook County Hospital was equipped for this purpose. The first medical school to establish a chair of roentgenology was Hahnemann of Chicago, Dr. Emil H. Grubbe being the first Professor of Roentgenology.

An amusing incident. During my first year in Chicago (1907), a highly intelligent negro clergyman applied to me to turn him white, by means of the x-rays. Naturally, I was somewhat surprised at the request, but he assured me that he had seen accounts several years before, that negroes could be turned white that way. My refusal to undertake the task seemed to upset and irritate him considerably, and at last he offered to pay me \$5,000 if I would make him white.

I did not learn the source of this man's information until after the lapse of about twelve years, when reading through the files of some old newspapers, and making further inquiries, I found that at one of the early (1903-1904) meetings of the American Roentgen Ray Society, Dr. Diefenbach of New York City had stated that negroes, treated for lupus vulgaris sometimes showed white patches where they had been irradiated, and that this observation had been verified by Dr. Henry K. Pancoast of Philadelphia. The newspapers got hold of this item and the next day *The Philadelphia North American* published a story under a heavily titled caption that these two men could turn negroes white. The story was passed to the Associated Press and was pub-

lished all over this country, and probably in Europe.

That is undoubtedly how my colored friend received his impression about being bleached by the x-rays.

25 E. Washington St.

MY IMPRESSIONS FROM THE PRACTISE OF MEDICINE*

E. W. MARQUARDT, M. D.

ELMHURST, ILL.

It is not the intention of this paper to give you something that is new in the field of medicine, but to give you, in brief, a resumé of my impressions from the practise of medicine covering a period of twenty-five years, with fifteen months post-graduate work in this country and two visits to Europe. I have often been asked how I decided and why I chose the practise of medicine for my life work!

My father was a farmer. He lived on the farm where I was born until I attained the age of twelve. My parents had the habit of assigning to each of their children, certain work which they had to do between school hours and supper time. This work or chores, as they called it, was not much but they did this to impress their children with the idea that work and play went hand in hand. It became my duty to milk two cows before supper. This I never liked to do. I frequently offered to trade with the others without success. At an early age I made up my mind I would never be a farmer because of the milking.

I recall the time when the stork arrived in vacation time at our neighbor's who lived across the road. Every morning I would watch for the doctor as he came over the mud road, sitting beside his driver, in an old-fashioned buggy driven by two black horses. Soon I would see mother going across the road, at that time I did not know why. Since then, I learned she was the nurse in the case reporting progress and receiving further instructions from the physician. I was not tall enough to look over the fence, hence I looked between the boards watching as he was coming and going. I began to admire his vocation. I followed him in my mind to his home and I pictured him stepping out of his

buggy and going into his home. My little mind figured that he had no chores to do and best of all he had no milking to do. The seed was now planted, and I decided to be a doctor. This thought never left me.

As my parents decided to quit farming and move to town, I decided to go to school realizing that certain education was necessary for this kind of work. As the years rolled by with college work, I was called by my parents into consultation and asked to explain to them my future intentions. When I informed them that I wanted to be a physician and nothing else, they objected and refused me further financial support. Fortunately after numerous consultations they changed their minds and permitted me to go. I started for Rush Medical College. After I had registered, purchased my books and rented a room, I made an effort to see Nicholas Senn, of whom I had read and heard of before. In due time I was in the front row in his clinic. With a throbbing heart I watched Professor Senn walk into the clinic. He was followed by an etherized patient, in a semi-sitting position about to be operated on for a goiter. After listening to a few preliminary remarks and watching him making the incision across the throat, I nearly fainted. I did not see all of the operation, as every look would make me more and more dizzy. I was glad when the opportunity came to go into the open air. This operation aroused my deepest sympathy and brought to my mind serious thoughts of quitting. I did not care to go back home so I decided I had better stay away from surgical clinics and attend the classes assigned to me.

The following summer our family physician, Dr. H. W. Bartells, offered to take me under his wing and asked me to spend my vacation with him. How proud I was to be with him; to drive his horses seemed an advancement. The time I spent with him was most valuable. He gave me encouragement and much good advice. Many of his suggestions I still remember and follow today.

After my graduation and fifteen months internship in the Grant Hospital, I became a full-fledged M. D. I started in Bensenville in 1902 where a prospective field was then open. I felt more competent to practise medicine then, than I ever have since that time.

*Read before the Du Page County Medical Society, Wheaton, Ill., Sept. 18, 1930.

I was now the doctor in the buggy, the same as I saw fifteen years before. In looking back twenty-five years, I now see the many changes which have taken place in the practice of medicine. The old family physicians with their distinctive dress and manner have become extinct. That mysterious and supernatural knowledge with which he was supposed to be endowed counts no more since the final triumph of scientific medicine. The muddy, the rough and frozen roads, the top buggy with the dim kerosene lights have given way to cement roads and high powered automobiles. Nearly all the medical work had to be done in the home. The hospital, which the patients feared, were few and distant. Today the patient's fear is gone. He now seeks the hospital with all its modern equipment accessible to us all.

Today, because of the great advancement in the science of medicine, the practise of medicine has become more and more complicated. Today, because of the accessibility to hospitals equipped with x-ray laboratories and trained nurses, the physician is better equipped to make more accurate diagnosis and prescribe more intelligently than he could twenty-five years ago. Today, the physicians realize that the cause of ailments must be removed, without that treatments are unsuccessful. Today, the physician enjoys the confidence of the public more than he ever did, because of the better results of treatment. His income is better, he can live better and with few exceptions is considered a respected sober citizen, who is always found willing to serve suffering humanity. Indeed, the best time to practise medicine is now. As a business man he never made an enviable reputation, he is still an easy prey to unsound investments. He generally neglects to send his bills nor does he attempt to collect his fees, in a business-like way, hence he is seldom seen getting rich from his labors. The physician seldom takes a definite stand on important questions when asked for an opinion outside of medicine. His answers are usually evasive. To evade an opinion he is often seen walking away, because he is now too busy to talk. What does the physician do with his leisure hours? Where does he go? What is his idea of a good time? Does he study or does he indulge in outdoor sport? Does he produce something that is lasting for permanent benefit and enjoy-

ment of others in the community? To avoid mental stagnation we must keep it active. To have a hobby outside of the regular work is a good thing. Minds can be cultivated in leisure hours and much can be accomplished. To gain an education is neither easy or rapid. Work hurts no one if you enjoy the work. The hardest working people live just as long as others and seem to be the happiest.

With past staff affiliations of three hospitals and two medical societies I have had ample opportunities to study different types of men. The happiest man is the one who cultivates his mind and entertains interesting thoughts. He is unselfish. He is the one with a big practise. He goes about his work in contentment, minds his own business and is always surrounded by worthwhile friends. He is usually seen in medical meetings from beginning to end and always found ready to give and receive the benefits of medical progress. A man is judged by his work and by his talk. The meanest things that I have ever heard said about doctors were said by doctors.

Ethics. There was a time when ethics was entirely superfluous, ethics which treats of moral motives, duties, conduct or character or what our conscience considers as our duty toward those with whom we associate, is better today than at any other time. A great deal of credit is due to the father of the DuPage County Medical Society, Dr. E. H. Oelke, for his efforts in organizing our society. It has done much to bring the doctors of our community into closer contact. Here I have seen many new acquaintances ripen into permanent friendship. I am free to confess that the friendships which I have formed in our meetings, I value very highly. Since then there has been a much better and a more friendly feeling between the medical men of this community. Not many years ago, doctors seldom got together, they seemed to fear one another. Consultations were few and far between. Today we see them mingle in medical societies, in hospitals, even with their families in social functions. Unfortunately a few of our members do not co-operate with the men in our midst. They should be helped, talked to and made more happy. I never refuse a patient consultation when he is so inclined. As far as possible I always call in a member of our society. I believe

the average intelligence of our members is equal to the average intelligence of the members of other societies. I know we have the necessary talents in our midst; why should we not give them the opportunity instead of calling outsiders who have no special interest in us? We should remember that all the money which goes to outsiders, whether for consultation, operations, x-ray or laboratory, is money lost for us. We should support our own men and our own institution. I believe we should spend more time and show more interest in matters pertaining to the business side of medicine and the effect of lay dictation on the medical profession.

I believe that the attending physician who recognizes the case early and brings the patient to the surgeon for early operation, for instance, an emergency abdomen, should be freely compensated for his skill and judgment. We cannot all be outstanding men in the different branches of medicine; the field is too large and the time is too short to acquire all the necessary information and equipment. We need specialists for some of our cases. To qualify as a specialist in any branch takes a lot of time and money. If the men who are engaged in specialized work would not get the support of the men in general practise, they might not deem it financially wise to qualify for this kind of work. To attempt specialized work, whether they be operations in the abdomen, or on the eye, ear, or work with the x-ray or radium, without the necessary qualifications, is not only dangerous to the patient but he is unfair with himself and to the medical profession. I have seen and heard of a number of instances where unprepared men attempted and became confused in an operation. In the midst of it they were compelled to sew up the incision, or they sent for and waited an hour or more for a matured man to come and finish the work, while holding the patient in an etherized condition in the operating room. We all know that every death or failure to cure brings up serious thoughts and has a depressing influence.

Internal medicine has made great strides in the last twenty years. Of the latest discoveries I may mention: 1. The prevention of typhoid fever. This does not need a specialist. Anyone in general practise can give these hypodermics of typhoid bacilli. 2. The development of the x-ray is another great advancement. Any man

who is on the staff of a good hospital has an x-ray at his disposal. Many men have an x-ray machine of their own, who take and interpret pictures very well. 3. The prescribing of liver extract for the cure of pernicious anemia offers no difficulty to anyone. 4. Insulin for the treatment of diabetes can safely be put into the hands of the man in general practise.

If there was ever a time when a man should give the best he has, it is to the one who suffered and bled for him, it is the mother in the birth room. In my experience with 1000 obstetrical cases of which there were nine cases of twins, one case of triplets and six eclamptics, 9.2% were forceps deliveries, 18% had lacerations of one-half inch or more. I have never seen a painless labor. I believe that all efforts to make them so is hazardous. In confinement, it is up to the physician and the mother to get desired results. I have never administered twilight sleep, rectal anesthesia or sodium amytal. The patients who ask for them will most always reject them when the action and after effects are fully explained to them.

I never did a manual extraction of the placenta, because I feared a possible subsequent infection. I have waited for three days for spontaneous expulsion with good results. I never did an epesiotomy. In my experience and judgment, I have never seen a case where an epesiotomy was indicated. I have learned by experience to avoid meddlesome midwifery. With a little more time and patience, with a little more control over your patient and the administration of ether and hot applications over the vulva, at the end of labor many a tear or cut can be avoided. With this theory and practise in mind, I have no deaths of father or mother, no milk leg or abscessed breasts, none in bed longer than two weeks. We are living in an aseptic period. Obstetrical and post-operative wound infections have nearly been eliminated. I alone and with others have treated approximately 5000 patients in the operating room with a death rate of 2%.

In my thirteen years affiliation with the West Suburban Hospital, I have seen it grow from the size of the Elmhurst Hospital to its present capacity of 450 beds. During this time it has been a growing satisfaction to have an increased number of patients hospitalized each year for medical and surgical care. How much more sat-

isfaction there is to have most of your patients all in one hospital than it was to go from house to house and assume responsibility of both nurse and physician as in former days. In the hospital we have all the equipment, the nursing care, hourly records for present and future use.

My ambition was realized when the Elmhurst Hospital opened its doors little more than three years ago for the reception of patients of all creeds and all reputable physicians. For the future it is my ambition to see this institution grow many times its present size and be an outstanding institution not only in this community, but to Chicago as well, because of the character of the work done here by its able physicians and surgeons. We welcome and hope that some of our men will become as eminent in the profession by their experimental work as J. B. Murphy in the Mercy Hospital from his invention of the Murphy Button, or Banting for his discovery of Insulin and Emil Behring for his discovery of Diphtheria Antitoxin and other men, by their work.

In choosing one's life work, I always advise that every boy should follow his own inclination and choose his own vocation. I have learned that four things are necessary to success in life—ability, reliability, durability and action. I have always made a good living and enjoyed my work. If I had to do things over, I again would want to be a doctor. In dealing with the different classes of people I find that the people of German descent are the best payers.

I have learned to admire the Catholic mother for her devotion and attitude toward her family. I have learned to admire the man with the Masonic button for his fairness in dealing with other men. I have learned to fear the man who forgets the Golden Rule, who is always ready to find fault with the one whose reputation and standing he wishes to injure for his personal gain. It is this man with a poisonous tongue who is not honest with his patient or his colleague. If the highest type of men are not found in the medical profession, then where would you look for them? In dealing with your families be explicit and definite, they like it better and it is better for you.

In conclusion let me say: To attain the best results for our patients, for ourselves and for

our profession, we must eliminate misunderstandings and unpleasant situations which doctors often bring upon themselves, by a little more thoughtfulness, a little more discretion, a little more brotherly love and a little more harmonious co-operation.

THROUGH THE WOMAN'S AUXILIARY,
THE WOMAN'S CLUBS CAN BECOME
MIGHTY FACTORS FOR THE DIS-
TRIBUTION OF SCIENTIFIC IN-
FORMATION AND FOR THE
WITHHOLDING OF GARBLED,
INACCURATE AND MIS-
LEADING DOCTRINES*

CHARLES B. REED, M. D.

CHICAGO

The woman has been the helpmate of man from immemorial times. Caesar tells us that among the Gaelic people the women often fought with their warrior husbands in the serried ranks of their tribes, and he gave us to understand that "the female was often deadlier than the male" in words of a later writer.

This position of service and coadjutor has been extremely grateful to man—so gratifying indeed that he is reluctant to accept the modern change which brings the ladies into immediate competition with his own activities and especially into participation in the rewards. The alteration of conditions has been slow, partly from man's innate unwillingness to yield any of his boasted superiority, but largely through the women's own acceptance of the Old Testament teachings which fortified the masculine attitude.

During the Victorian era, now happily past, about the only personal exploitation allowed the female sex was in the nature of "church socials" where vivacious virgins and the "sedentary multiparas" of the district were urged to compete as public cooks for masculine favor and commendation.

The upgrowth and escape came principally through the Chatauqua Circles and Woman's Clubs which brought the members into steady and certain contact with the affairs of life.

In the work of their clubs the women learned to lay aside the emphasis on sex and to speak

*Address to the Woman's Auxiliary of the Chicago Medical Society, October 2, 1929.

directly eye to eye and brain to brain in true parliamentary fashion. They secured in this manner their intellectual independence just as in previous centuries they had painfully acquired the right and will to dispose of their affections. As a logical result, the women who had been so thoroughly educated, trained and developed in forensic fields instinctively sought mental equality and comradeship in marriage with professional men; and doctors' wives became everywhere conspicuous as leaders and speakers in the women's forums.

The men, too, meantime had passed through a severe apprenticeship, a long period of drastic training and polishing which was necessary before they rose out of their original sin and brutishness to a better understanding of their position in Nature. They acquired foresight as well as retrospection, judgment as well as emotions. In ancient times the hermit in his secluded cave was just as valuable to primitive society as Paul of Tarsus—"a citizen of no mean city." So the snail in his sanctuarial shell was as definite a factor in evolution as his free swimming brother, the nautilus.

But with the control of Nature's forces, the increase in personal comfort, and especially by the inauguration of the machine age with the marvelous expansion in human mind and spirit which accompanied its development, man as an individual lost much of his importance. Even the family has ceased to hold its primary significance, and groups organized on occupational lines are now almost the only recognized units of society.

The systematic combination of such forthright individualists as professional men is now generally accepted and these associations probably represent the highest example of the group idea.

Meanwhile the nonprofessional element has been somewhat awakened to the value of preventive medicine, and to the fact that doctors are something more than fakers and mystery men. To meet a growing demand for scientific knowledge of hygiene, physiology and the cure of disease our reputable journals, magazines and newspapers now publish an enormous amount of really useful and accurate information in their "Health Columns."

The health of the Nation is its greatest asset

and all thoughtful people are interested in anything that pertains to physical well being. Unhappily this feeling is often commercialized by charlatans and by irregular and irresponsible institutions which prey upon the weak and credulous aspirants for better physical endowment.

In such a crisis the medical men and the women's clubs can be mutually helpful. Their aims and purposes are identical in this respect. Both stand for civic economy, civic righteousness, and social welfare. The women are organized locally and nationally; and the doctors also, into County, State and National Associations. What could be more expedient than the union of these bodies for the physical betterment and the mental advantage of Society. Intellectual men and women can be seers and prophets, they can be leaders of modern thought but they will secure results only through their compact and energetic organizations.

The Woman's Auxiliary is an entirely new phenomenon in the development of medicine. The movement is now in its second year but at times the members seem somewhat at a loss to know what method of attendance and what variety of nourishment is required for the babe which has been laid rather unexpectedly upon their doorstep—often they wonder if their formulas are correct.

The Woman's Auxiliary is the most logical and efficient medium for bringing about an affiliation of the medical societies and the Woman's Clubs for the accomplishment of those high ambitions in the development of society which are cherished by both organizations.

This is particularly true because the higher sensitiveness and the shrewd intuitions of the female nerve centers will often bring them more quickly to the sane conclusions and judgments which are attained long after by the pedestrian brain of man.

Furthermore the women of the Auxiliary are personally familiar—only too familiar at times—with the doctor's problems. They understand his anxieties, they sympathize with his tribulations, and they share his ambitions for the welfare of our civilization. They can furnish at all times valuable information as to what medical science has done and is doing for public health.

Through the Woman's Auxiliary, the Woman's Clubs can become mighty factors for the

distribution of scientific information and for the withholding of garbled, inaccurate and misleading doctrines. They can be of great service in shaping and developing social crusades in harmony with modern medical ideals.

The profession of medicine is as necessary to progress as education, but we cannot apply this knowledge to the best advantage of the people without their personal cooperation.

This cooperation can be secured through the dissemination of truth and through the confidence which our women have in the integrity of our professional motives.

Medical men are everywhere improving medical schools and hospitals, they are striving to reduce the cost of illness, and they should have the confidence and assistance of their wards. To get this confidence they must deserve it. To secure this cooperation the Woman's Auxiliary is most important.

The Woman's Auxiliary can be a most significant factor in this program. Through the Woman's Auxiliary the Clubs will be equipped to combat the insidious advances of charlatans and to act intelligently on questions that affect the public weal. They can arouse and direct public sentiment into channels of public benefit instead of into public waste, spoilsmanship and racketeering.

A fine example of the efficiency of woman's aid in such matters is furnished by the failure of the Sheppard-Towner-Newton Law. If the women had remained indifferent and inactive or blind to the iniquities of this measure, it is more than probable the whole splendid campaign of the *ILLINOIS MEDICAL JOURNAL* and other similar publications would have gone for naught. The law would have been re-enacted, and the evil blight perpetuated.

That this law was unnecessary, that it was a wholly gratuitous infringement of personal liberty, is shown by the results. In the registration area the maternal mortality in states acting under the Sheppard-Towner-Newton Law averaged 6.8% in 1921. In Illinois wherein the law was never operative the maternal mortality has dropped to 5.1%.

At the same time in the sixteen states where the law was accepted the infant mortality diminished only 10.6%, while in the five states where the law was not accepted this mortality dimin-

ished 13.9%. Certainly the opponents of the law have been amply justified.

In such a manner other measures can be analyzed, appreciated and effectively fought or upheld by the women as the good of the people demands.

Furthermore the women can be extraordinarily helpful in combating these influences which are tending toward commercialization of medicine. The dangers of socialized medicine and the disastrous consequences of state medicine can be called constantly to the attention of the public. This is largely a process of educating the general mind by continual reiteration. Education can be equally effective in other ways. The utilities of remedial agents can be emphasized and the importance of using natural remedies against disease as well as against starvation can be insisted upon. Sanitary principles can be enforced by precept and example.

Women as well as men for the most part are densely ignorant of human physiology and the causes of disease. The more ignorant the individual the easier it is of course to convince him of some cultist untruth. Some men are merely uninformed while others refuse to be enlightened. These latter accept the electric light but refuse to believe that modifications of that light can affect the human body. They can see the mould on bread but deny or refuse to believe that the same and similar organisms can exist in living tissue and produce putrefication, inflammation and other forms of disorganization. If they could be convinced that bacteria live in the intestines normally and act beneficially by aiding digestion, it ought not to be hard for them to learn that the same bacteria moved by chance to other parts of the body, or introduced from without, could cause disease.

In consequence of this mental state such people fall easy victims to the wiles of faddists and the adroit manipulators of the numerous cults who do not hesitate to claim that "I have cured the disease but you came to me so late that the cause of the trouble cannot be removed," and so the patient dies as science had already predicted.

At all times the women can use their voices and their votes to support beneficial measures like vaccination and vivisection which harmonize with the tenets of modern scientific effort.

At the same time they can oppose by voice and

vote the cults and crusades by which the ignorant, the fanatic or weakly sentimental try to destroy the advance of reason.

The Woman's Auxiliary can easily be the decisive factor in such contests as the Sheppard-Towner bill has proven. The woman has here an insuperable advantage for she works among individuals, families and in selected groups, where the doctor himself would be an alien and an outlaw.

The women of Illinois are fully awake to these problems and well equipped to become leaders in a movement which is destined within a few years to evoke discussion all over the continent.

It is evident, I believe, that the Woman's Auxiliary need have no fears that it will lack for occupation, and it is equally evident that such services will be deeply appreciated by the medical beneficiaries. The doctors are an independent, individualistic lot; they like to fight their own fights, and win their own battles; but they welcome assistance from the splendid women who follow their banner and fight by their sides for the right.

In times of peace the armies of the world may be skeletonized to a mere tenth of their full complement of men, but the regiments are kept functioning like perfect machines. So the Woman's Auxiliary may find periods of idleness and discouragement where no foe is in sight, and no purpose that seems worthy of effort, but ignorance is always at our elbows, a meet subject for instruction and at the barest hint of overt attack the splendid organization of the women can fill their ranks and spring into action with the fiery ardor, intensity of purpose and high capacity which has distinguished them in all their previous conflicts.

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LEGISLATIVE OBSTACLES IN OBTAINING ADEQUATE MEDICAL LAWS*

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In a small Quaker college located somewhere in the United States there is a student association which controls the athletic policies and ac-

tivities of the institution. Conventional collegiate fraternities are prohibited from the campus but there is a secret society which calls itself the "Rabbit Foot Club." Out of a student body of more than 300, only 20, or less than 7 per cent, can be members at any one time. Members who graduate, however, can and do continue to exercise an influence over the club.

This Rabbit Foot Club has dominated the athletic association of the college for six generations and it will probably continue to do so indefinitely. For every student office that relates to athletics that club nominates a candidate, works for him and votes solidly for his election. For every proposed policy or activity subject to student control that club chooses a definite plan and stands behind it to a man.

Members of that club are a homogeneous group. Additions are admitted only after the most deliberate and careful consideration. Each new member must possess qualities and attributes which harmonize and fit in with those of the group.

The athletic association is made up of members from every class, every literary society and every other student organization on the campus. Candidates for office are often brought forward by genuine well wishers and also by reformers, malcontents and others, but most of them fall by the wayside except those selected by the Rabbit Foot Club. New policies are advanced, changes of the by-laws are recommended and reforms promoted, but nearly always everything not sponsored by the club dies in committee or gets lost in the election. A very few members of that student body usually control matters because they know exactly what they want and go after it with a united front.

In the world of affairs the Rabbit Foot Club at that Quaker college would be a lobby organization and the athletic association would be a state general assembly. The situation in that student body illustrates how a small minority of the population, bound together by a common purpose and driven forward in unified strength by the overpowering motive of self profit, is able to get statutes written upon the books when spokesmen for a far larger and infinitely more rational group often fail miserably to impress the law-makers. Conflict of opinion and unsteady support of an adopted policy is mortal to

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the legislative ambitions of any organization which champions so controversial a subject as that of the healing art.

The very nature of our form of government makes it impossible for significant proposed laws to find their way upon the statute books without powerful support. Take an average general assembly in Illinois, for example. Every two years various interests will seek to have enacted into law some 2,000 or 3,000 different measures. No less than 1,500 of these will be reduced to the form of bills and presented to the assembly. About 500 will become laws. Manifestly with an average mortality rate of 66 per 100 bills introduced, there is small chance of survival for those which deal with such controversial subjects as the practice of medicine unless they show evidence of strong organized support. They die of inanition.

There is a great diversity of opinion about medical matters among the profession and even more among the laity. Take the question of alcohol. Physicians of national repute have publicly expressed opinions favorable to the judicious use of that intoxicant even aside from what might be called medical purposes. Others no less prominent violently oppose even the medicinal prescribing of alcohol. Again, outstanding members of the medical profession strongly favored the Sheppard-Towner Infancy and Maternity Act although the American Medical Association vigorously opposed it and ultimately succeeded in defeating its continuity, at least for the time being.

On the other side of the picture is that heterogeneous group known as the general assembly. Doubtless the legislature of Illinois provides a fair sample of what these bodies are like from the standpoint of education and experience. Out of 204 members of a recent general assembly there were 63 lawyers, 24 farmers, 18 real estate dealers, 10 merchants, 8 insurance agents, 7 bankers, 6 newspaper editors, 6 teachers, 6 clerks, 6 housewives, 5 professional politicians, 4 contractors, 4 doctors, 3 manufacturers, 2 grain dealers, 2 oil dealers, 2 grocers, 2 stock raisers, 2 laborers, 2 jewelers, 2 salesmen and 2 undertakers. There was 1 business man, 1 machinist, 1 coal miner, 1 engineer, 1 linotype operator, 1 hotel manager, 1 painter, 1 druggist, 1 teamster and 1 cigar maker. The others were a non-de-

script lot who had no trade or profession worthy of recording.

Furthermore, less than one-half of these assemblymen had more than a common school education. Doubtless the great majority of the membership were individuals of unusual resourcefulness in their communities but only 83 had ever matriculated at a college or university, 16 more had been in high school while 105 had never gone beyond the common schools in pursuit of a conventional education.

Out of the group 9 were born in foreign countries while a larger number were removed from foreign birth by only a single generation. In religious faith the diversity was no less great than in occupation.

In managing their health affairs a great many families resort to every kind of makeshift and subterfuge before calling upon a physician to provide the necessary service.

The high death rate from diphtheria or appendicitis indicates a tendency to use the doctor as an aid of last resort. In Illinois a study of the records shows that a doctor was not called until the third or later day after onset in over 40% of the reported cases of diphtheria. Thus the favorable time for giving antitoxin had already passed. Likewise, annually, appendicitis costs the lives of more than 1,200 individuals in Illinois largely because in most cases someone involved has delayed resorting to the proper treatment. These are but two of many illustrations of long delayed use of medical skill in connection with serious physical ailment.

The foregoing analysis shows that a state general assembly is likely to be of the common people. It suggests likewise that the great mass of common people are apt to utilize the medical profession after all other sources of alleged relief have been exhausted. Is it to be supposed that membership in the general assembly will so transform the nature, habits and beliefs of individuals that the legislature as a body will forthwith of its own volition or at the suggestion of some enterprising citizen enact laws that will repose in the orthodox medical profession the sole and exclusive responsibility of ministering to the sick and protecting the health of the well?

State legislators come from small political units. It is a very common thing to hear that the constituents of representative Doe are mostly

Christian Scientists, that Senator Goodspeed has the support of the American Legion, that this one was elected on a dry plank and that one on a wet. Labor and dirt farmers send candidates to the Capitol but seldom does one hear of a man being elected through support attributed chiefly to the medical profession. There is only one doctor per 700 citizens and these are naturally divided in their political and frequently in their medical opinion. Thus the total number of medical voters in an average political unit is very small but if the physicians, no matter how few, will co-operate—their influence has and will continue to assert itself when the question of health is an issue.

Politicians are well aware of this situation. Politicians have a sensitive ear for any wavelength that carries the joyful music of votes. They sometimes tune in on independent stations but it is usually for entertainment only, when the broadcaster is known to control a paucity of votes.

Again, medical education is ultra conservative. Individuals are taught to shun advertising and publicity as they would a bad name. The patient must inquire into the merits and ability of a doctor and search out his office to obtain what the physician has to sell. This situation is contrary to almost every other phase of modern life. Even the churches have united in a vigorous advertising program. Every industrial and commercial enterprise teaches its personnel that the "go getter" is the fellow who wins. Every cult and ism schools its pupils in the fine art of advertising upon which their very livelihood depends.

Thus it appears that about 99½ per cent of the population get what they acquire by going after it with blasting horns, shouting from the housetops to announce the virtues of their wares. The legislators understand that method of doing things. When the public is a bit slow in making a "drive" for what it wants or of what politicians decide is good for it, the politician goes out and organizes a demonstration to prove to the world that there is a demand for what he wishes to do. I have known a Governor to direct the organization of one booster club after another which bore down upon the Capitol in specially chartered trains with banners flying and bands ablaze to wait upon the Governor in order to

persuade him to build a hard road where he wished to build it.

That situation creates a very large obstacle in the way of securing adequate medical legislation. As a general rule doctors are individualists and ultra conservative at that. It took over 50 years for the medical profession in Illinois to get the first permanent medical practice act upon the statute books of that state although numerous attempts to that end were made during the intervening half century. Even in the Territorial days of 1817 a law creating a medical society which should be its own judge and jury and providing for the registration of vital statistics was enacted but its life was brief. Two years later, in 1819, another somewhat similar law found birth but likewise perished in infancy and the same fate overtook a third law which was passed in 1825. Subsequent attempts never succeeded in materializing into even a temporary statute until 1877 when upon one of those rare occasions the state medical society got solidly behind a program and brought it successfully through the general assembly. That law created a state board of health which kept alive the interest in the medical law from that time forward.

Appreciating these difficulties and profiting by the history of medical legislation in Illinois the state medical society there has manifested an unusual vigor and aptitude in legislative matters. Due largely to a handful of deeply interested leaders a very definite legislative program has been planned and the society has been united in its support. As a result Illinois is now one of the very few states which maintains a single board to supervise the licensure of practitioners. In 30 other states and the District of Columbia there are separate examining boards for chiropractors and other cults. The single board plan makes possible the maintenance of the highest possible standards under any existing legislative requirements while the multiple board system tends to lower the standards under the most exacting legal specifications.

It is not surprising that the Legislatures in the several states find themselves in a dilemma when attempting to arrive at the proper solution of this very perplexing problem, when it is quite obvious that, without the proper advice, it would be impossible for them to create a medical law

which would be the best safeguard for the citizens of the State.

We observe that a considerable number of the States are adopting the so-called "basic science" law, which we believe is fundamentally wrong. But we do see the necessity for such measures in those States which, through their own error, have allowed a multiplicity of conflicting laws to be enacted, with the necessary number of separate boards to administer them. The "basic science" law is so adopted as a means to an end, for it is not debatable that the licensing of any profession should be supervised by others than members of that profession. To think that the "basic science" law which is supervised, and the examination given, by laymen, solves the problem, is as unreasonable as to expect the legal profession to permit a committee of architects or engineers to examine lawyers; and yet, there are many physicians who, without carefully studying the so-called "basic science" law, subscribe to its efficacy. This again is another legislative obstacle in the many states where there is a controversy always existing between the cultists and the regular school. There are quite a few well thinking members of the Illinois General Assembly, who believe that such a law should be enacted in that State.

We believe that the average member of the legislature is earnestly endeavoring to give support to the enactment of the proper and necessary laws, but undoubtedly propaganda from any well organized group will have its influence. The Anti-Vivisectionists are extremely active throughout the United States at this time. They come into the legislative halls with their sympathetic half-truths, and paint a picture which is most difficult to correct after a false impression has once been formed in the minds of the legislators.

It is our belief that the blame should not be laid at the door of the legislator in the majority of cases, but is distinctly a responsibility of the medical profession, which through apathy has permitted a condition to be created which tends toward the lowering of educational requirements regarding those who are seeking the privilege of treating human ailments. A restricted medical practice act which has to deal with the lower educational requirements of the cultists is not the ideal, but is far superior to a dual act and

separate examining boards. Physicians, even in their own organization, at times fail to take cognizance of the fact that the legislature is a highly impressionable body, and despite the fact that the best safeguard for the people would be a single standard which all who seek the privilege of treating the sick should follow, the attitude of organized medicine is frequently misunderstood in legislative bodies, due partially at least to the unwillingness of the physician to debate the good or bad of any suggested drugless therapy; and his unwillingness to impartially discuss the situation with the lawmaker, which tends to create a doubt in the legislator's mind as to the physician's contention. And, of course, the cult exploiter takes advantage of a situation of this kind to his profit. It is a well known fact that a considerable number of intelligent people, including legislators, do at times seek the services of the cultists for minor ailments; and the physician does not show the tolerance nor make the effort to explain to his lawmaker patient the unfounded claims of the drugless healer, but all too frequently speaks lightly or in a vitriolic way regarding the shortcomings of the cultists. This is contrary to the manner a banker speaks to the physician after his ascertaining that a physician's stock investment was unwisely placed with a resultant loss. The banker is tolerant and willing to advise the physician and show him how to avoid the pitfall; but the reverse is not always true when the banker makes an error in placing his faith in some patent nostrum or is enticed into the hands of an incompetent drugless healer. Our observations would lead us to believe, therefore, that the apathy of the medical profession is largely responsible for the many incompetent laws, and that many physicians do not acquaint themselves with the very law under which they themselves are permitted to practice the healing art.

Probably the greatest success in legislative matters that the cultists have had is the "personal liberty" argument. Since it frequently goes unchallenged by the medical man it has borne fruit in the legislative halls for the cultists, and Supreme Court decisions have even indicated that there is some merit to their claims upon this basis. Mr. Harry Eugene Kelly, of the Chicago bar, who wrote the present Illinois medical law, although unfortunately a few sec-

tions were changed by the legislature, read a most excellent paper before this association several years ago. And of the "personal liberty" element which is played up so successfully by the cultists, he says in part:

"The state should not seek, and, so far as I know, never has sought in any way, to limit a person in his choice of a physician from practitioners legally determined by it to be familiar with diseases, competent to make scientific diagnosis on which to base treatment, and informed generally on the various curative agents. The state should see that the public shall not be imposed upon by persons who lay claim to knowledge of diseases and the laws of health which they do not possess. It should prevent the perpetration of this kind of dangerous fraud which costs the public not only its money but inflicts on men, women and children sorrow, pain and death, and which spreads disease among the people."

Further he says:

"The first thing to do in every state is to procure an act of the legislature that will reflect wisdom and justice. The endeavors of all persons who are interested in progress along these lines should be directed toward inducing legislatures to understand the fundamental principles of the subject-matter involved, and to pass the laws that recognize those principles and give public officers, including the courts, power to enforce decency and proficiency in the profession of healing the sick. Such regulation must be done through the state governments; for the United States government has substantially no original control over this occupation."

There is still another obstacle in the way of securing adequate medical legislation. It is the very modernness of the present standards and scientific requirements of a well qualified practitioner. The medical profession travels in the van of sociological betterment. The politician may trail ten or fifteen years behind public opinion. When a popular attitude or custom finds expression upon the statute books it probably has already become conventional practice among a very large block of the population. In seeking medical legislation the organized profession looks into the future and attempts to build solidly. Lawmakers examine the present and feel the

popular pulse for its reaction to any proposed change. Thus the medical profession finds its very efficiency and improvement an impediment in bringing about the legal safeguards that would result in the elimination of widespread abuse in the field of the healing art.

The success with which the Illinois Medical Society has carried out its legislative program in recent years, causing the defeat of several hundred bills which it deemed obnoxious, and the enactment of a fairly satisfactory medical practice act in 1923, suggests that a well organized legislative program with sufficient resources to keep the profession at large informed and active in behalf of that program is one means of meeting obstacles under present conditions. Ultimate solution depends upon general education of the public along medical lines. This can be facilitated in no better way than for medical organizations to confer with public health agencies and work together in close harmony of purpose and plan. With a state health department and a state medical society going to the legislature with divergent programs is an invitation for defeat to any comprehensive medical legal code. Long ago Abraham Lincoln immortalized the Biblical admonition that a house divided against itself cannot stand and today no other expression can set forth more fully the reasons why legislators have not listened more attentively to the suggestions and advice of the medical profession.

THE NURSING PROBLEM

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At the last annual meeting of the Illinois State Medical Society, the House of Delegates unanimously adopted the following Resolution:

1. WHEREAS, There is a widespread opinion that the theoretical training for nurses is being over-emphasized at the expense of practical training, thereby increasing the difficulty of rendering efficient nursing service to the general hospital patient.

Therefore Be It Resolved, That the House of Delegates of the Illinois State Medical Society request the Illinois State Board of Registration and Education to so modify its requirements of nursing education as to enable the general hos-

pital training schools for nurses to devote more time to the practical training of nurses, thereby insuring more adequate nursing care for the general hospital patient who is financially unable to provide himself with special nursing care.

The adoption of this Resolution puts the medical profession of the state of Illinois definitely on record and makes it obligatory upon the members and officers of the society to undertake a serious study of the nursing situation and to make definite suggestions to the proper authorities for the correction of the faults complained of.

On May 12, 1920, the Chicago Medical Society devoted its meeting to a "symposium on the Nursing Problem." The proceedings of this meeting were published in full in the October, 1920, number of the *ILLINOIS MEDICAL JOURNAL*. (Pages 357-369.) To the present writer it would seem that an abstract of the salient points of these proceedings which are still applicable would add greatly in clearing up the problem at this time. As several of the addresses dealt with problems that are no longer controversial, the following is an abstract of the addresses by Drs. J. V. Fowler, Chas. E. Humiston, Edward H. Ochsner and M. L. Harris.

"The settlement of this question of nursing will devolve largely upon the medical profession. The nurse is an adjunct to the medical man in the treatment of diseases, and she is now becoming a necessary and almost indispensable adjunct, but the physician of all men has the best understanding of the situation.

"A protest was filed on February 24 of this year with the Director of Registration and Education by Dr. M. L. Harris, representing the Illinois Hospital Association, the Illinois State Medical Society, the Chicago Medical Society, and the City Health Department. The specific grounds of protest were that the Department of Registration and Education was illegally establishing rules for hospitals and training schools and claiming that it had the law for so doing; that the Department was ignoring all officers and directors of hospitals in correspondence with the training school, and was naming qualifications, number of instructors and also the number of patients which a hospital must have in order to be on the accredited list; likewise fixing the re-

quirements for admission to training schools and establishing a curriculum for training schools.

"The Attorney-General's ruling is an interpretation of law in regard to these complaints made through Dr. Harris by these different organizations; and he holds that complaints were well founded and should be respected, with the exception of one: The Department might carry on correspondence with the head of the training school if it wished.

"Nowhere in the Act of 1919 is the Department required or authorized to make or adopt rules establishing a standard by which schools for nurses or schools for preliminary education are to be approved or disapproved.

"The qualifications of the instructors, the number of graduate nurses, whether they be registered or not in Illinois, the superintendent of the training school, whether she shall be registered or not, do not seem to be stated in the law. The Department is not clothed with the authority to inquire into these things. Inquiry into the efficiency has to be made by finding out what sort of fruit the tree yields. In passing on the exercise of best judgment the recommendations of the Committee of Nurses and their judgment have not coincided with many others. The rules and regulations which they have applied to hospitals have been considered oppressive, ill-timed, ill-advised, unwarranted and arbitrary. The ruling of the Attorney-General on that point is worth noting, in view of the fact that the rules and the power to make them under the present law were left out inadvertently. The Attorney-General says that he takes it that the legislators had in mind leaving this out.

"The art of alleviating human suffering is not, of course, limited to any one group of people, but the foremost group is essentially the physicians. In any business or enterprise where co-operation is necessary, it is essential to have a head in command; and the assistants and helpers must take orders, or there is no coordination. The trouble with the law of 1913 and the present law is this, that it requires subordinates and assistants—in other words, nurses—to act independently and in a superior manner, exercising authority over their employer without restraint in certain lines. A proper and final solution, as I estimate the matter, will be when the education and training of nurses is entrusted to the

same hands that administer the Medical Practice Act.

"The most important medical problem before the profession and before the public is unquestionably the problem of nursing. The successful practice of medicine and surgery today is so dependent upon efficient nursing that anything which impairs the latter must necessarily seriously affect the former.

"In discussing this problem we must ever keep in mind that there are two fundamental considerations. First, the welfare of the patients, and, second, the interests of the nursing profession. I firmly believe that the medical fraternity will favor any plan of adjustment which secures the best possible service for their patients and guarantees favorable working conditions and remuneration to the nursing profession, as in the long run patients can be served best only if the nurses are treated fairly and physicians are served best if their patients get proper nursing care.

"What the public has a right to expect can be stated in one sentence, namely, it has a right to expect efficient nursing services, at reasonable cost, and in sufficient quantity to meet ordinary needs.

"Twenty years ago the nursing situation was about as well adjusted for the needs of the times as it possibly could be. That portion of the public which had awakened to the desirability of expert nursing service was able to get it at a reasonable cost. Up-to-date physicians who knew its value to their patients and thus to themselves could always get good trained nurses without much difficulty; nurses had plenty of work at adequate pay. Then came the three and three and a half year training school curriculum craze from the effete East, and while this is only one of the factors which has caused the trouble it is certainly one of the major ones.

"Foreseeing even then the havoc that the universal adoption of this lengthened course would sooner or later bring in its wake, I took the trouble of calling attention to this matter to three of the most prominent nursing superintendents of that time. In fact, I had a long session with each of them, but all of my arguments were of no avail because they were determined to put the three-year course into practice and as a partial result of this we have today

many splendidly trained nurses suitable for hospital positions and welfare work, a large army of utterly incompetent women calling themselves nurses and inflicting themselves upon an unsuspecting public and a long suffering medical profession, a considerable number of women who missed the opportunity of a nurse's training because they were unwilling to devote three years to it, and a woefully inadequate number of suitably trained women for home nursing.

"The proposition which I urged upon these training school superintendents was to retain the two year course and give one year of post-graduate training to such young women as proved themselves especially qualified by natural endowment and education. While this would unquestionably have reduced somewhat the number of highly specialized trained nurses, it would surely have greatly increased the number of those who were especially trained for family and bedside nursing because a very large number of suitable young women would have taken the two-year course who were unwilling to take a three-year course. A properly conducted two-year course will give a bright young woman all the training that she needs for bedside and private duty work. In fact, I am quite thoroughly convinced that the services rendered by the two-years' trained nurse in private families average higher than that rendered by the three-years' trained nurse, for the simple reason that the three-years' trained nurse has only too often gotten interested in other things than bedside nursing. In addition, the training schools have lost a good many applicants who, in the past, took the training simply for the purpose of better preparing themselves for wifehood and motherhood. Some of the most earnest, hard-working nurses whom I have ever known have been young women who were engaged to be married before entering training and who took the training in preference to a college course because they felt it would prepare them better for their new duties. Such a young wife and mother in a small town or a rural community is a valuable asset and the universal adoption of the three-year course has done any amount of mischief along this line alone. The plan which I proposed at that time has every advantage of the present system and none of its disadvantages and it is one which could and should be adopted by every training

school in the State to the advantage of the training school, the nurses and the public.

"While criticism is often necessary, non-constructive criticism alone never accomplishes anything. For this reason I wish to here resubmit the program which I urged eighteen years ago, because I believe it would be as beneficial now as it would have been then, had it been adopted. At this point it would seem desirable to state briefly what a training school should strive to accomplish. It should train its pupil nurses, first, to become efficient private duty nurses; second, for that role in life which, after all, the great majority of women sooner or later assume; and finally, in addition, those who desire it and are especially adapted to become proficient in the nursing specialties should be given an opportunity to thoroughly prepare themselves in these specialties. I make this statement at this time because it has seemed to me that in recent years many of the training school superintendents as well as the Department of Registration and Education have taken a narrow view of the nurse's training and have considered almost exclusively only the interests of the professional nurse and by so doing have robbed the training school course of much of its usefulness to society. To make professional nurses is an important function of the training school, but to give a large number of women who do not want to make a profession of their training an opportunity to improve themselves and make better citizens is, if anything, even more important.

"One of the most important requisites for good nurses is suitable pupils in the training school and in order to get the right kind of pupils certain requirements must be established and maintained.

"In order that the pupil nurse might fulfill her part of the bargain I proposed that:

- (a) She should be of good moral character.
- (b) Sufficiently strong and in good physical health.
- (c) Suitable temperament and of sufficiently intellectual and spiritual capacity.
- (d) She should be at least twenty-one years of age.
- (e) Have satisfactory educational qualifications, namely, graduate of a grammar school or its equivalent.
- (f) Have had one year of practical experi-

ence in some useful character forming and judgment developing occupation.

"In order that the training school might creditably fulfill its share of the bargain I proposed that it should provide:

- (a) Good food.
- (b) Hygienic living quarters.
- (c) Suitable hours for work, study, rest and recreation.
- (d) Adequate theoretical instruction.
- (e) A two-years' course for all applicants with proper variation of work.
- (f) A third-year post-graduate course for such nurses as desired this extra year and who showed special adaptability in any of the nursing specialties.

"With most of the above proposals practically everyone will agree, but with reference to some there may be considerable difference of opinion. I am thoroughly convinced that no young woman should enter a training school before the age of twenty-one. Nursing is serious business and most persons below the above age are not capable to take the serious responsibilities which are so often unexpectedly thrust upon a nurse. I have seen some very unfortunate results in a number of young women who entered upon the work before they were physically, intellectually or morally mature.

"There has been a strong tendency in many quarters to make the educational requirements for admission to training schools too high, I believe. I think a reasonable requirement is graduation from grammar school or its equivalent. To me some practical experience in life, coupled with real work, seems a much more important qualification than mere book learning. I would a great deal rather accept twenty probationers with a grammar school education who subsequently had spent three or four years at reasonably hard, responsible, character-forming and judgment-developing work, such as teaching, bookkeeping, business, etc., than to accept twenty young women who have dilly-dallied through high school, girls' finishing school, or even college with just a passing mark, who have never learned how to really work, who could not satisfactorily sweep a room, and who have never had a particle of responsibility. The first twenty would learn much more and make very much more useful family nurses than the second

twenty. Some of the very best nurses I ever knew were self-educated young women with less than a grammar school education, who had worked hard to make a livelihood and acquire the little book learning they had. I do not say this to belittle the value of a college training for there is no one who values college education more than I do, but simply to emphasize the fact that there are other things besides mere book learning that make for efficiency in nursing.

"There is a strong tendency among training school superintendents, the longer they stay in the work to magnify the importance of theoretical instruction and nursing fads, and what is known as paper work in the army, and to relatively at least undervalue and belittle the importance of everyday practical work, a tendency which has to be combated constantly by the physicians and surgeons whose first interest is the welfare of the patient and whose second interest is the real true best interest of the nurses in training. The danger of falling into this serious error should be recognized and constantly combated by these superintendents themselves. Unfortunately, this fault has been rather encouraged than discouraged by the Department of Registration and Education. Only recently I made inquiry at one of the best training schools in the city and found that the senior nurses were getting six lectures a week. This is out of all proportion of what they really need and if the lecturers were more careful in properly preparing their lectures and giving the nurses what they really need, three lectures or even two a week would be better than six. I found in one of the training schools in this city that the lecturer on surgery devoted the greater part of an hour to a differential diagnosis between gall stones and appendicitis and the indications for operation while another devoted considerable time to a differential diagnosis between carcinoma and sarcoma. Such lectures I consider only a waste of time but worse than a waste of time from the standpoint of a nurse's training because they have a tendency to make a nurse less efficient. One of the important functions of a nurse is to observe symptoms accurately and to so record or report them. If she has preconceived notions about diagnosis her report is more likely to be colored and distorted and hence incorrect than if she is simply taught to carefully

observe and accurately report what transpires during the interval between the surgeon's visits.

"Some will say that all these studies are interesting and furnish mental training; granted, but in that case they had better study ancient languages, the nebular hypothesis and the binominal theorem, the study of which surely furnishes a greater amount of mental training without impairing the usefulness of the nurse. No, nursing is an intensely interesting and practical occupation in which there is much of real importance to learn and all non-essentials should be most carefully and rigidly excluded. The medical lecturers and the nurse teachers should constantly ask themselves the question, 'Is this essential? Will this enable the pupil to become a better and more efficient nurse?' If they would all do this, fewer lectures would suffice and much valuable time and energy could be saved, but before this can be done the Department of Registration and Education will have to assume a little different attitude. Today the training school teachers and lecturers have to constantly ask themselves the question, 'Will our nurses be able to pass the examination?' Only recently I remonstrated with a medical friend who was lecturing to nurses about the kind of information he was imparting to them. He said we have to give these things to them or they will not be able to pass the board, then went on to say that recently one of the questions asked was, 'Describe the fetal circulation.' Does anyone with a particle of sense believe that a knowledge of the circulation of the unborn babe is essential to good nursing or that such knowledge makes a nurse more efficient. In my humble opinion such questions are nothing short of stupid and an examiner who asks such questions should be instantly dismissed.

"In this connection, permit me to call attention to a paragraph in Bulletin No. 4 of the Department of Registration and Education in force September 1, 1919, which is found on page 16 and which reads in part: 'Instruction in class and lecture with three hundred and twenty-four hours as the minimum total for the two years' course.' This is not only an excessive number of hours of theoretical work, but it is clearly not in conformity with the spirit of the revised nursing law passed by the Fifty-first General Assembly, for, as I understand it, the number of

hours of theoretical instruction now required of the two-year student is practically the same as the number of hours previously required in the three-year course. Administrative officers should not only obey the letter but also the spirit of the law. If they cannot conscientiously do both there is only one honorable alternative and that is to resign.

"An earnest, bright, industrious young woman with the proper qualifications taking a two-year course, as outlined above, will, at the end of two years, have become an efficient nurse for general duty. If she wishes to follow private nursing as her special calling to compel her to take another year's training is a sheer waste of time. If, during her two years' training, she has shown special aptitude in any one of the other nursing specialties, such as administrative work, obstetrics, children or surgical work, she should be encouraged to take a post-graduate year, during which time she should be given charge of the floor or department for which she is especially fitted with proper instruction along the line of her specialty and given reasonable remuneration.

"In conclusion, permit me to urge upon the training schools of this state, first, that each school establish an intensely practical intensive course of two years in which only the essentials of nursing be taught and in which the pupil nurses be not required to render menial service or waste their time on non-essentials and fads. Second, have only those schools with ample means and a large variety of medical and surgical patients under their care give a post-graduate course of one year to such graduate nurses as show special qualifications and desire special training in the nursing specialties.

"If the Department of Registration and Education would sanction the plan above outlined and the training schools of this State would adopt it, I feel confident that the shortage of training school applicants, so generally complained of, would soon in large measure be overcome and as a result a much larger number of nurses suitable for family nursing would soon be available.

"To my mind the trouble with the nursing situation began with the passage of the first registration act for nurses. Previous to that time we had an abundance of very competent nurses to wait on the sick under the advice and

instruction of the physician. From the time of the registration of nurses the situation has been changing in this direction that the nurses who wait on the sick have been constantly decreasing in number while the women who advise what to do for the sick have been constantly increasing in number until today the great majority of them are women who are advising what to do for the sick, so that we have few left to wait on them. This situation culminated last year when the nurses had a bill introduced in our legislature which made it unlawful for any person to wait on the sick except a registered nurse. It was time then for somebody to rise up and object.

"It is rather unfortunate, but it is nevertheless true, that there is just about as much fad and fashion in the modern professions as there is in women's dress, and because a number of high-brow ladies in the east who were supervisors of nursing and not nurses themselves, favored this particular fad that the three-year course became fashionable. When the fashion struck Chicago it was just as imperative upon the highbrow nurses in Chicago to demand a three-year course in Chicago as it was for other ladies to wear furs in July and half dress in winter. That is why we have the three-year course in Chicago today. It was fashionable to adopt the three-year course and it had to be adopted.

"I believe further that the time is ripe for the medical profession to go on record through their official societies—the Chicago Medical Society and the Illinois State Medical Society—and say that a two-year course is the proper thing. Then two years will become fashionable and most of the hospitals will adopt it. Fads and faddists and extremists have had their day, and it is time for an awakening and for the sane, sensible members of the profession to assert themselves."

It is my firm belief that if the hospitals and training schools and the Department of Registration and Education had adopted the above suggestions made a little over ten years ago, the hospitals of the state would be in very much better financial condition than they are, the private duty nurses would be better off and that portion of the general public which is unable to have day and night specials would be getting better nursing care than they are getting now.

That the Department of Registration and Education has not followed the suggestions made

above but to the contrary has made conditions even worse than they were ten years ago is best illustrated by the type of questions they are asking in their examinations for nurses, and by the requirements they are imposing upon the training schools.

I procured a list of questions of a recent examination, had copies made and submitted them to six busy practitioners of medicine of this state. Each one of the men to whom these questions was submitted has had over twenty years' practical experience; two of them are busy general practitioners, one of them with a large obstetrical practice and the others are specialists in various lines—all are men with large practice. I asked each one of them to mark the questions on the following basis:

Mark (a) questions which are of value in determining whether a nurse is properly qualified for general bedside nursing, usually spoken of as private duty nursing.

Mark (b) questions of doubtful value in determining the above.

Mark (c) questions of no value in determining the above.

The six medical men who examined the questions evaluated them as follows:

A—69%
B—18%
C—13%

In looking over the questions myself it seems to me that if anything these gentlemen have been very lenient with the department. A very rigid evaluation would, I believe, have resulted in fewer A's and more B's and C's.

One of the gentlemen who marked the questions made the following comments about them—"Questions marked B were so marked because I felt the average bedside nurse may be able to answer the questions intelligently, yet not show by that answer that she is a competent bedside nurse. Questions marked C I felt had no bearing whatever in determining the quality of the bedside nurse. Most of these questions should be determined by the physician in charge and the nurse simply comply with the request of the physician's orders. Some of these questions marked C show efforts by the examiners to determine whether the nurse may be controlled by a central bureau."

The most liberal construction, I think, is that the department is giving the same examination

to the young woman who wants to qualify as a general duty nurse and the one who wants to be a public health nurse or a nursing executive. To me this seems all wrong. What would we think of a University that gives the same examination to a candidate for a Bachelor's degree as for a Master's or even a Doctor's degree? Besides the Illinois Nursing Act was proposed and enacted with the avowed purpose of protecting the citizens of this state against exploitation by incompetent nurses. Is it accomplishing its purpose? Are the type of examinations given by the Department of Registration and Education, the requirements made of the hospital training schools for nurses and the educational tendencies which these foster and encourage likely to accomplish the avowed purpose of the law or are they designed to create a class of supernurses? If I read the Nurses' Act correctly, the latter is not the intent of the law and the Department of Registration and Education has no right to so construe it or use it for that purpose.

It is earnestly to be hoped that this practice of trying to make a supernurse out of every little probationer who enters a training school for nurses will give place to a serious effort to prepare each one for those services to society for which she is best fitted by natural aptitude, temperament and intelligence.

Bulletin No. 6 of the State of Illinois Department of Registration and Education contains a copy of the Illinois Nursing Act and a general statement of the policy of the department. Here again contrary to the opinion of the Attorney-General it states the qualifications of a training school for nurses and then gives two courses of instruction required of the training schools. Course No. 1 requires three hundred and twenty-four (324) hours in a period of two years, and course No. 2 requires two hundred thirty-two (232) hours. My first comment would be that I do not believe that any considerable per cent. of nurses whose instruction covered only two hundred thirty-two (232) hours could pass the questions asked in the recent examination. Besides I do not believe that the department is making a serious effort to follow either the letter or the spirit of the law. The tendency of those who are elected and appointed to enforce the law themselves disobeying the law is one of the most serious tendencies in our government, a tendency

which if not soon checked will surely result in most serious consequences.

In order that the readers of the JOURNAL may judge for themselves as to whether the questions recently asked of the candidates for registered nurses are the sort of questions that should be asked of these candidates, I have prevailed upon the editor to publish these questions with this article.

NERVOUS, MENTAL AND MEDICAL NURSING

1. What organic diseases of the nervous system produce mental disorders?
2. Do the endocrine organs influence mental development? (a) State reason for your answer.
3. What do you understand by paranoia? (a) At what age does it occur?
4. Mention four forms of treatment in nervous and mental diseases.
5. What is chorea? Give principal points in nursing care.
6. How would you arrest epistaxis?
7. Outline nursing care in the treatment of suppression of urine.
8. Describe the usual course of the temperature in typhoid fever. (a) What is the usual character of the pulse in typhoid?
9. Name some adverse symptoms to be watched for when nursing scarlet fever. (a) What period of the disease is it contagious (b) Is the microorganism easy to destroy?
10. How would you prepare and give a nutritive enema?

PEDIATRICS

1. Name the qualifications a nurse should possess in order to make a success of Pediatric Nursing?
2. State general care of skin of children suffering from Exanthematic Diseases?
3. Give name of test used for diagnostic purposes in: (a) Diphtheria. (b) Scarlet fever. (c) Tuberculosis.
4. Name six nursing measures used to reduce fever in children.
5. Define Poliomyelitis. What are the special points to be observed in the nursing care of this disease?
6. What is Thrush? Describe preventative treatment.
7. What dietetic requirement would you force in an undernourished infant?
8. Name equipment and give procedure of making a sterile formula.
9. Give care and feeding of the premature infant.
10. At what age should a child be taught to use a tooth brush? How should the teeth be cared for prior to this time.

ETHICS AND HISTORY OF NURSING

1. Why is the science of Ethics an important subject for a nurse to study?
2. Name the nursing organizations which every graduate nurse should join, and state the qualifications for membership in each.

3. How can the individual nurse help to forward the advancement of her school?

4. What qualities do you consider essential for success in the following branches of nursing: (a) Private Duty Nursing, (b) Institutional Nursing, (c) Public Health Nursing?

5. How can a nurse determine whether her conduct is right or not?

6. What are the present trends in nursing education?

7. Outline the most important accomplishments of Florence Nightingale.

8. How has the advancement of scientific medicine affected nursing?

9. Name four U. S. Government Nursing Services and state the function of each.

10. What advice would you give a young woman who was seeking information concerning schools of nursing with a view to entering the nursing profession.

OBSTETRICS

1. Describe the ligamentous support of the uterus.
2. Why is it important to practice perfect asepsis in obstetrics?
3. (a) What is the cause of postpartum hemorrhage? (b) Mention the nurse's duties in such an emergency.
4. What do you understand by the term "presentation" and "positions"?
5. Why are forceps used to hasten delivery?
6. (a) How soon after labor should the bladder be emptied? (b) Mention measures that could be tried on a patient unable to void before using a catheter.
7. How does the uterus stop bleeding from the placental sinuses?
8. Give the general principles of the dietary throughout the puerperium.
9. Outline the local and general nursing care of a patient having had extensive lacerations and repair.
10. Define the following: (a) Hyperemesis gravidarum, (b) Ophthalmia neonatorum, (c) Asphyxia neonatorum, (d) Resuscitation.

DIETETICS

1. Define, give the function and source of food.
2. Name some foods rich in each of the following: (1) Proteins, (2) Carbohydrates, (3) Fats, (4) Mineral matter.
3. State the five principal methods by which foods may be preserved.
4. What percentage of meat is lost during the process of digestion?
5. What becomes of the end products of Metabolism and all unutilized food after the process of digestion and absorption are completed?
6. What is Lactose and where is it found?
7. How would you prepare a baked egg?
8. Tell how you would prepare vegetable soup for an infant, stating what vegetables you would use.
9. State one process to, First—Extract meat juices, Second—To retain meat juices.
10. Mention ten points to be observed in serving food to the sick.

HYGIENE AND SANITATION

1. Define—(a) Personal Hygiene, (b) Sanitation.
2. Make a list of eight personal habits which might lead to the undermining of the health of an individual.
3. Name the important food groups and state what contribution to the body's requirements each group makes.
4. What are the beneficial effects which may be derived from a daily bath?
5. What habits of eating do you consider necessary (a) to cultivate, (b) to avoid?
6. Name four diseases which may be transmitted to man through contaminated milk.
7. How would you proceed to obtain information concerning State laws in relation to the control of communicable diseases?
8. How would you differentiate between quarantine and isolation in relation to communicable diseases?
9. Name the more common sources of contamination of drinking water.
10. Outline a community program for the prevention and control of diphtheria.

SURGERY AND GYNECOLOGY

1. (a) Outline duties of the sterile nurse during an operation. (b) Duties of the nonsterile nurse.
2. Give method of sterilization of the following—(a) Rubber gloves, (b) Cutting instruments, (c) Suture material.
3. Give symptoms, cause and nursing care of shock.
4. Mention two conditions which may result from pressure points of a plaster cast.
5. Outline preparation for hypodermoclysis.
6. For what purpose are the following used? (a) Ambulatory splint, (b) Buck's extension, (c) Touriquet, (d) Retention catheter.
7. Why must the bladder be emptied before an operation?
8. What do you understand by "precaution" in the nursing care of a gynecological patient?
9. Name three types of catheters and give method of sterilization of each.
10. Locate the following—(a) Perineum, (b) Peritoneum.

BACTERIOLOGY AND URINALYSIS

1. Why is the knowledge of bacteriology important to the nurse?
2. Give name of the leukocytes which protect the body from bacteria.
3. What do you understand by the term toxemia? Give example.
4. What are: (a) Saprophytic bacteria? (b) Pyogenic bacteria?
5. What points are to be considered in the value of a disinfectant? (a) State strength of bichloride solution, also alcohol for skin disinfectants.
6. Discuss the pasteurization of milk. (a) Why do we pasteurize milk?

7. Name the microorganisms that produce: (a) Infection. (b) Inflammation.
8. Name causes that may: (a) Decrease the quantity of urine. (b) Increase the quantity of urine.
9. When albumin is found in the urine what pathological conditions would you suspect?
10. What are the epithelial cells often found in urine?

MATERIA MEDICA

1. Name five rules that should guide a nurse in the administration of medicine and care of the medicine cabinet.
2. Name three conditions that govern the dosage of medicine.
3. Name four sources from which drugs are derived.
4. To what classifications do the following drugs belong:
 - a—Cascara Sagrada
 - b—Cocain
 - c—Calomel
 - d—Strychnine
 - e—Pepsin
 - f—Veronal
5. You have a solution of Strychnine in which twelve drops equals a 1/30 gr. you are told to give 1/40 gr. How much of the solution would you give?
6. How much Silver Nitrate solution containing 48 grs. to the ounce must be used to make one pint of a 1% solution?
7. Name and give purpose of the four parts of a Prescription.
8. If the adult dose of Atropine Sulphate is Grain 1/100 what would be the dose for a child 8 years of age? For a child ten months old? Give examples of each.
9. Define and name one of each: a—Vaccines, b—Allergens, c—Serums.
10. Name: a—Heart Stimulant, b—Heart Sedative, c—Heart Depressant.

ANATOMY AND PHYSIOLOGY

1. (1) Define Bone. (2) Name two kinds of Bony tissue.
2. Name the content of the canal in the long bones.
3. Classify the ribs into their various groups and state how many ribs are in each group.
4. Name the three coverings of the brain.
5. Describe and give the function of the following:
 - (1) Motor Nerve Fibers.
 - (2) Sensory Nerve Fibers.
6. What is the chief function of the Red blood cells?
7. Name and give the function of the largest gland in the body.
8. Name the various tissues of the body.
9. Locate the Islands of Langerhans.
10. Locate and describe the thyroid gland.

BLOOD TRANSFUSION DISCUSSION OF INDICATIONS AND METHODS*

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Blood transfusion is of interest to all branches of medicine. Most surgeons have used it from time to time in major crises but the method is applicable to medical as well as surgical cases and is not used as much as it deserves. Indications have widened markedly since the first successful attempt by artery to vein anastomosis and especially since the iso-agglutinin groups have been thoroughly understood and used in securing suitable donors. The technique at the present time is applicable in the home in an emergency as well as in the hospital. Familiarity with this therapeutic agent and adoption of some standard technique leads to use in other cases than as a last resort. Perhaps one of the most dramatic things we see in medicine is the rapid and complete response to transfusion in hemorrhage. A patient may be pulseless, cold, clammy, restless, pale and pink in color, quiet, pulse good quality, warm before the completion of the injection of 700 to 800 c.c. of blood. The indication here is obvious. In shock both as a prophylactic agent in poor risk patients just before operation or immediately afterwards the response is no less dramatic. During the world war gum acacia solutions were used with the idea of its superiority over saline because not so readily exuded through the vessels. Where blood is available, however, it is far superior to any artificially prepared colloidal mixture.

Blood supplies several things. It increases volume, raises blood pressure, supplies new oxygen carrying cells, increases coagulation or shortens increased bleeding time such as in purpura hemorrhagica, hemorrhagic disease of the newborn. In diseases associated with jaundice I have used it with life saving results. Chronic infections are often associated with anemia, chronic osteomyelitis of which is a good example. I have found repeated transfusions of value in chronic infections in two ways, to replace lost blood and stimulate antibody formation. Blood

infections are associated with extremely rapid fall of hemoglobin and red cells. I have at least one case of streptococcus viridans septicemia maintained by repeated transfusions with recovery after several intravenous injections of mercurochrome. In acute hemorrhage such as following ruptured ectopic pregnancy, incomplete abortion, ruptured liver, bleeding ulcer, I have repeatedly noted dramatic effects as mentioned before. Chronic empyema cases have progressed faster and convalesced quicker by counteracting the secondary anemia with repeated transfusions. A case of Banti's disease with marked secondary anemia was prepared by two whole blood transfusions followed by a third citrated blood transfusion immediately after splenectomy for an uneventful recovery. These are the experiences in general surgery in an average run of cases and have been repeated over and over again by others where the agent is adopted and used where benefit can be obtained. There is no question then that the indications have been widened.

The point then arises as to why the use of transfusion of blood has not become more widespread. This leads us to a discussion of a number of things. First of all, what danger is there connected with its use? We can reply that with competent grouping followed by a compatibility test between recipient and donor, with the meticulous attention to technique required of any intravenous injection using the whole blood method there is probably no more danger than an intravenous injection of saline. The fact is well known that all bloods are not compatible. In olden times before the iso-agglutinins were understood many deaths were reported due to this fact. This trouble may be avoided by making proper agglutinin tests. Blood falls into four groups known as types one, two, three and four. Of these two and four are the commonest, two making up 40 per cent., four 45 per cent. Types one and three 5 per cent. and 10 per cent. respectively. Type four is a universal donor so-called because its red cells are not agglutinated by another group. Type one is a universal recipient because its serum cannot agglutinate the red cells of another group. In making the test only type two and three sera are necessary. Seras are obtained from known types two and three under sterile precautions and can be kept almost indefinitely in the ice box and retain their potency.

*Read at bi-annual meeting Mercer County Medical Society, Aledo, Illinois, May 7, 1929.

By carrying out the technique of this test clumping or not will occur as shown by the slide and the patient's group determined. A series of donors are tested out and one in the same group utilized if possible or if not a group four may be used. A Wassermann should be done if there is time. Following this another extremely important test must be done if undesirable reactions are to be avoided, i. e., cross matching. The serum of patient should be tested against donor's corpuscles and vice versa. If there is clumping that donor should not be used. For practical purposes a compatibility test between recipient's serum and donor's corpuscles is all that is necessary. The test is simple. Eight or ten drops of patient's blood is allowed to drop into a small tube that has a drop of 3 per cent. sodium citrate in normal saline in it. This is centrifuged and the supernatant sera tested against the donor's corpuscles. This test should not be omitted except in the most urgent cases.

Secondly, aside from death or a terrific reaction due to improper grouping and incompatibility another danger is the milder reaction dependent on the technique used. Methods of transfusion may be classified into

Direct—artery to vein.

Indirect—

1. modified—citratated method.
2. whole blood.

Reactions consist of a chill, rise in temperature to 103 to 105, pain in legs and back, terrific headache, vomiting, rarely urticaria or petechia. They vary in degree and may come on while giving the blood though usually not for 12 or 24 hours afterwards and have occurred in my experience as late as the fifth day. Various theories are advanced to account for them such as bloods being incompatible, addition of anticoagulants such as sodium citrate, chilling of the blood or delay outside the body leading to some unexplained change in its composition, some ingredient being absorbed from the rubber tubing or glassware, etc. In view of these facts it seems reasonable to assume that blood the shortest time outside the body, to which no foreign substance is added and which comes in contact with a minimum of foreign surface would, other things being equal, give the fewest reactions. This holds true clinically. Modified blood transfusion gives as high as 33 per cent. reactions whereas whole

blood methods give from 2 to 15 per cent. varying with different observers.

Each of these methods has its place, however. The direct method is of course obsolete. First, because of the contact between donor and recipient and secondly no accurate method can be used to determine the amount given. Of the indirect methods the citratated type is the oldest. Blood is drawn into some suitable container, 2.5 per cent. sodium citrate being stirred into it a few drops at a time as the blood comes out in the proportion of 50 c. c. to each 450 c. c. of blood. Coagulation is prevented. It is then injected either by gravity or a pressure apparatus into the recipient just as in giving an ordinary intravenous injection. This method has a high percentage of reactions but has several advantages and should be included in the armamentarium of the transfusionist. Its main advantages are the blood can be drawn at a distance from the patient and transported if kept warm. Furthermore, in patients just operated on who cannot be moved to the operating room conveniently it is an advantage to draw the blood under aseptic precautions and then take it to the patient's room unhurriedly and administer it as slowly or as fast as desired. It is an easy method to master, no elaborate apparatus is required, requires no trained team, is a one man method.

The transfusion of whole blood, however, has gained wide popularity in the past few years. The reason is obvious. Unmodified blood put immediately into the vein of the recipient is loaded with all the constituents of value to the individual. Blood is an unstable fluid even short delay outside the body or the addition of even as harmless a substance as sodium citrate changes its character. The chief difficulty has been the prevention of coagulation. Many different makes of transfusion apparatus are on the market. Most of the apparatus may be taken as typical of the syringe threeway valve method. They are open to the objection of a complicated apparatus with valves and lengths of rubber tubing which is apt to become clogged and is hard to keep clean. The Percy Kimpton tube or Strauss syringe method may be taken as typical of the more direct transference of blood in a short length of time without complicated apparatus. In the Percy or Kimpton tube blood is allowed by its own pressure to fill a glass tube of

250 c. c. capacity drawn out to a tip at the end to connect with a cannula. The tube is coated with a special wax preparation before use to prevent coagulation. The same tube is then attached to a cannula or inserted directly into the vein of the recipient and forced in rapidly under air pressure. In the hands of an expert with proper preparation of the tubes the method is very successful but requires considerable experience and cutting down on the recipient's vein is necessary.

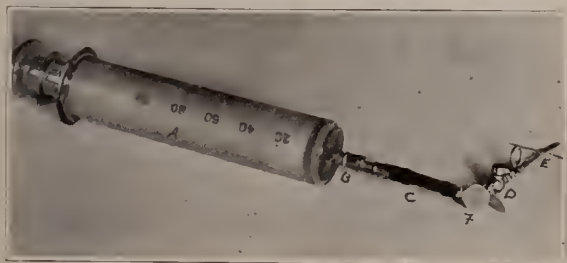


Plate 1

Syringe Method of Blood Transfusion

- A. 100 c.c. syringe.
- B. Adaptor.
- E. Strauss needle showing eyelet on the shaft for Cambric needle.
- D. One-way valve adopted by us to control blood while changing syringe.
- F. Uprights attached to valve which rest on arm to increase stability of needle and valve.



Plate 2

Whole Blood Transfusion by the Syringe Method Showing Use of Flexible Connection.

- (Labels are the same as in Plate 1 except at F.)
- F. Thumbpiece attached to curved adaptor on flexible connection to give better control in attaching and detaching from valve.

The favorite method for whole blood transfusion with us is the Strauss syringe method slightly modified by ourselves. It is simple, rapid, done usually without cutting down and a clean surgical procedure. Five hundred c. c. of blood can be transfused in five minutes and coagulation never is a difficulty. Two special needles devised by Strauss are used. They are inserted in the veins of donor and recipient and

anchored by means of a cambric needle inserted through the skin and then through a special eye in the needle. Both needles are inserted with the point proximal on the arm for convenience. It is not necessary to have the donor's needle pointed distally as is so often carefully pointed out in the literature. A blood pressure apparatus is applied above the point where the needle is to be inserted and pumped up to diastolic pressure. The patient closes the fist and if a vein is at all present it stands out. After blood flows from the needle proving that it is in a vein a simple one way valve with a small platform attached to it to make it stand upright on the arm is attached to the needle. This is used instead of a flexible rubber connection recommended by Strauss. Both arms being ready a 100 c. c. syringe which has been rinsed in saline and then in 2 per cent. sodium citrate solution is attached to the donor. The valve is opened and if the B. P. band is at diastolic pressure the syringe fills of its own accord. It is passed to the operator at the recipient's table and injected while the same process is repeated at the donor's table. Five syringe-fuls are usually used. No syringe is used more than once and rarely is difficulty encountered. As a rule the whole transfusion is over in 5 minutes. Should delay occur on the recipient's table the donor's syringe is reversed and blood slowly reinjected to keep the needle open. If delay occurs at the donor's table warm saline is injected slowly into the arm with a 20 c. c. syringe to keep the needle free. If difficulty is encountered in getting into a vein we immediately cut down under local anesthesia and tie into the vein a special cannula needle with two beads on the shaft to prevent slipping devised by Strauss.

In conclusion we emphasize the fact that transfusion has much wider indications than usually considered. It is a safe, reliable procedure provided competent grouping and compatibility tests have been made and careful technique used. Modified and whole blood methods have been described. Both methods are valuable in certain cases but the whole blood method has the advantage of fewer reactions.

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INTESTINAL OBSTRUCTION DUE TO GALL STONE IN JEJUNUM

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It is not my intention to discuss this subject to any great extent, but merely to report an interesting case; because in looking over the literature I found the subject very ably discussed by many writers, some of whom I will mention in this paper.

While I feel that intestinal obstruction due to gall stone is not a frequent occurrence, still it is not rare. The first man to record such a case was Bartholin in 1654. Courvoisier, in 1890, reported 131 cases and stated that spontaneous cure resulted in seventy after passage of the stone per ano. He also stated that about four per cent. of cases suffering from intestinal obstruction are due to gall stones.

Martin in 1912 reports that out of 280 consecutive cases of intestinal obstruction from all causes only one was caused from gall stones.

Von Wagner, who covered the subject very thoroughly and looked up all available literature in 1914, found 334 cases on record up to that time.

Powers of Peter Bent Brigham Hospital of Boston reports four cases in 179 patients operated on for intestinal obstruction.

Mayo Robson reports that in 80,000 hospital patients in four large British hospitals the condition occurred four times.

Barnard reports eight among 360. Blood-gard, in a series of 280, reports one case.

Martin, while professor of surgery at the University of Maryland, sent a questionnaire to a group of surgeons and received replies from twenty-eight whose experience he estimated at half a million operations. Sixteen cases of gall stone ileus were reported to him.

In one of the English surgical infirmaries one case in 50,000 was reported.

In this case which I am reporting I was called on May 25, 1929, to see a lady who was vomiting off and on during the night:

A woman 60 years of age, weighing 230 pounds, 5 feet 2 inches tall, slightly icterus, who does not appear acutely ill but who is vomiting. Does not complain of any pain or anything else except vomiting.

Past History. Was called to see this patient three months previous because of very severe pain in the right upper quadrant and when I got to the home the patient was smiling and walking about, and the pain was all over. This was undoubtedly the passing of a gall stone.

Also saw this patient four years previous to this in 1925, with symptoms of gall bladder trouble, but she refused hospitalization. Had the usual childhood diseases, otherwise negative.

Surgical history negative.

No female trouble or menstrual disorder.

Head and face: Negative, except a slight icteric hue.

Eyes: Pupils equal and react to light and accommodation. No inflammation but conjunctivae icteric.

Nose: Negative. Ears negative.

Mouth: Teeth out, no inflammation, tongue coated.

Neck: No glands—negative.

Lungs: Negative. Bases resonant throughout and movable, also apices.

Heart: Slightly enlarged. Pulse 82, Temp. 99, Resp. 20.

No murmurs. S. 116

Heart tones fair: D. 60

Pulse 82 P. P. 56

Skin: Very slight icteric.

Abdomen: Distention of stomach and part of upper abdomen. No rigidity at all and very slight pain or tenderness over gall bladder region, but some distinct pain over left side of abdomen about the middle. No rigidity.

Extremities: Negative.

Female genitalae: Negative on examination. Has had menopause.

Rectal: Negative. Reflexes normal.

I made a diagnosis of partial obstruction and advised hospitalization and probable operation, but patient refused. Also refused x-ray of G. I. and gall bladder.

Washed out stomach and by refraining from food for two days and with high enemas (getting results) she stopped vomiting after forty-eight hours was able to take soft diet and liquids until June 5, 1929. That was eleven days after initial vomiting. At this time I did persuade her to go to the hospital where she refused operation, but we did G. I. and gall bladder x-ray.

Report June 4, 1929:

X-ray examination of G. I. tract by means of barium meal reveals that the stomach shows no organic disease. The duodenum and jejunum are markedly distended and we would conclude that there is an obstruction in the jejunum.

A gall bladder visualization was not satisfactory due to the fact that the patient vomited the dye. A re-check was not advisable. In the right upper quad-

rant there is a filling out of the lumen which is an appendix or diverticuli.

Operation was advised but refused, and at this time she had stopped vomiting again and medical consultation was called in and advised to wait now as the obstruction seemed to have cleared up clinically.

On June 10, 1929, fifteen days after the initial vomiting and four days after the second vomiting spell she again started to vomit for the third time and gave evidence of intestinal obstruction at this time. I again advised operation with a very poor prognosis. (But it was a chance even though a poor one.) Preliminary washing out of stomach and operation was *done*. A possibility of a malignancy was thought of but because the acuteness of the symptoms the probabilities were otherwise.

Laboratory findings:

R. B. C.—4,136,000

W. B. C.—11,200

Hem.—80 percent.

Urine:

Clear

1018

No albumin, no sugar

Wassermann—Negative.

Operation: June 10, 1929. Ethylene anesthesia.

Usual preparation.

Mid-line incision, 4-5 inches in length.

Peritoneum opened.

Abdomen explored and gall bladder region was just a mass; no anatomy of gall bladder could be found—appendix up in that region kinked and partly over-bound.

Appendix dissected away and removed; stump inverted.

Duodenal and first part of jejunum distended and all other bowel collapsed.

In taking up the bowel and following it up a hard mass, the size of an egg, was felt in lumen of jejunum not movable, but not part of the bowel itself. Bowel lifted out of abdomen and incised longitudinally over mass, and the large gall stone removed. Incision in bowel closed by double Lembert suture. No seepage at all. Cigarette drain put in abdomen and closed by sewing up peritoneum fasciae and skin separately and placed three tension silk worm gut sutures through skin and fascia.

Stone was the size of hen's egg, measuring $2\frac{1}{2}$ inches in length, and $1\frac{1}{4}$ inches in diameter. Oval like an egg, only one end was rough and irregular where some of it was broken off at different times and probably expelled in stool. Was brown in color and on section, where it was broken off, pathologist reported cholesterol gall stone.

Post Operative Course: Condition poor, in shock and also severe toxemia from vomiting which became fecal just before operation.

Heart stimulation given, salt solution and glucose per rectum and intravenously. Patient died June 10, 1929, 11:00 P. M., the same day of operation—thirteen hours after operation.

Pathology: Cholecystitis from the gall stone or stones, then a pericystitis with adhesions between the gall bladder and bowel with ulceration and pressure. Necrosis of wall and subsequent perforation; the process taking years to form.

Symptoms: Those of acute obstruction:

Nausea, vomiting, which at first may be periodical and then vomiting becomes constant and often fecal in a short period of time.

Distention of upper abdomen.

Pain—although not constant.

Gurgling heard with stethoscope above the site of obstruction rules out a paralytic ileum and is in favor of a mechanical ileus.

Treatment: Early operation.

Prognosis: Bad.

Mortality: Varies from 50 to 100 per cent.

Herman	82 cases	63 percent.
Vaughan	13 cases	92 percent.
Schiller	82 cases	56 percent.
Moller	22 cases	82 percent.
Martin	70 cases	69 percent.
Courvoisier	125 cases	44 percent.
Wagner	159 cases	48 percent.

Autopsy permission was given, providing only abdomen was opened:

Autopsy report. June 11, 1929, 11:30 A. M.

Body of white female, 60 years old, well nourished and showing signs of post mortem lividity. Recent scar in abdomen 4 inches in length, scar appears clear, and there are several stitches in skin flap and a cigarette drain.

Skull and thorax were not opened.

Abdomen: Liver enlarged, firm, and shows marked necrotic material in region of gall bladder. Gall bladder firm and bound to liver and the internal wall sloughed away, forming a large opening into duodenum.

Duodenum firmly bound down by adhesions.

Kidneys normal in size and appearance.

Upper bowel shows recent scar from which a large gall stone has been removed.

Appendix removed in gall bladder region.

Anatomic Diagnosis: Ruptured gall bladder into the duodenum with marked inflammatory changes of the jejunum with recent incision into the jejunum.

Conclusion:

1. Gall stone ileus is not infrequent.
2. Gall stone obstruction in bowel must always be considered in bowel obstruction in cases where there is a history of previous gall bladder trouble.
3. Early operative intervention in upper intestinal obstruction is imperative.

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THE RELATION OF ANIMAL DISEASES TO PUBLIC HEALTH*

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In Illinois and other livestock producing states animal diseases constitute a problem of increasing importance to agriculture. Modern methods of husbandry have not only intensified existing infections of animals, but artificial methods of feeding and housing have been instrumental in the development of nutritional maladies. Since man is dependent upon animals and animal by-products, we may rightfully ask regarding the influence of animal diet and human health. The value of milk, for example, which the physician prescribes implies a selected milk from healthy animals properly fed. Since certain infectious diseases of animals are communicable to man, the problem of husbandry also has an important public health aspect. In so far as animal diseases endanger the health of man physicians are rightfully concerned with a problem of prime importance to agriculture. Many factors influence this problem.

The number of animals in a given area and modern methods of transportation influence the incidence of an infectious or contagious disease of animals. In this connection it is well to remember that in the United States there are approximately 58,000,000 cattle, 42,000,000 sheep, 53,000,000 swine, 20,000,000 horses and mules, and 500,000,000 domestic fowls, valued at \$7,000,000,000. Illinois alone has a domestic animal population of approximately 32,500,000 representing an investment conservatively estimated at \$250,000,000. Add these figures of the economic value of animals to the immeasurable

public health aspects and we are confronted with a problem which challenges the best thought in agriculture and human and veterinary medicine.

Losses from Disease. From the standpoint of agriculture the annual loss from preventable diseases in the United States approaches \$300,000,000 annually, while Illinois alone contributes not less than \$20,000,000 to this total. Sanitary measures are the most logical procedures through which losses from contagious animal diseases may be reduced, yet we find the ranks of the veterinary sanitary forces have been depleted with scarcely enough graduates being turned out to replace vacancies in the Federal Bureau of Animal Industry, not to mention the need of practitioners in city and urban districts. An adequate veterinary personnel is essential not only for agriculture, but also for an adequate protection to public health. The expanse of our country remains unchanged yet air travel routes make Illinois and other central states less than 12 hours from three ocean ports, while over rail lines native livestock is constantly drifting to Chicago and East St. Louis markets. A contagious disease on this continent at any point constitutes a potential threat to the husbandry and public health of Illinois.

Healthy Herds Are Essential. Animal disease factors have a bearing upon the prosperity of agriculture. No single item seems more important than a prosperous husbandry. Inefficient producing animals bring low returns. The owners of such animals and agriculture suffer proportionately. Inferior returns from animals through which 85 to 90 per cent. of all the grain raised in the United States is marketed are frequently traceable to disease. In successful husbandry animal health is fundamental, yet highly desirable animals from the standpoint of type too frequently suffer from disease. This situation prevails only because the farmer has not been convinced of the drawback or obstacle it represents to his business, or of the best method to maintain healthy herds. For the same reason the physician and the public tolerate potential dangers to public health from animal disease. To illustrate, data obtained in 350 herds in forty counties show that one in every five cows tested, including more than 3,000 animals, reacted to the agglutination test for bovine infectious abor-

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tion. These data are generally accepted as indicative of the prevalence of the infection in cattle in Illinois. No branch of husbandry can profitably produce indefinitely with such a handicap, nor can undulant fever in man be completely suppressed until this infection in cattle and swine is reduced to a minimum. Infectious abortion control is not the cure-all of all the ills of husbandry, but it bids fair to favorably influence the course of Brucella infections in man. The losses from Brucella infection in cattle and swine cannot be suppressed, nor the danger of this and other diseases to man be effectively avoided until there is a more general appreciation of the relation of certain animal diseases to man. A preliminary survey of the Brucella problem suggests that many phases of this disease are not understood; but at this time information handed out to physicians and veterinarians regarding control, namely, pasteurization of milk and the establishment of clean herds, seems a reliable method of approach.

The Public Health Aspect of Animal Diseases. The control of contagious animal diseases is the responsibility of national and state livestock sanitary officials, as well as of every individual engaged directly or indirectly in handling livestock. Physicians with an understanding of hygiene have a responsibility in educating the public along the line of comparative hygiene. To state and national officials who are most intimately concerned with animal disease control, action is no longer prompted purely by economic motives. Notwithstanding the pecuniary importance of healthy animals to agriculture, the public health aspects of animal diseases are recognized as potent forces in protecting the livestock industry as well as public health. It has been said that "when there was less to know, it was possible to remain unconscious of ignorance." A knowledge of the relation between animal disease and public health for many years has prompted the development of several measures to provide proper protection, yet the number of persons who suffer from diseases traceable to animals each year clearly indicates a need of applying more rigid precautionary measures. This accomplishment entails a program of education by the veterinarian and physician in every community to develop an appreciation of the importance of the problem in the public mind.

Animal Pathology Research Started with Agriculture. The possible significance of animal pathology to human health is probably a matter of biblical record. The rational prevention of smallpox in man through cow pox virus in the 18th Century stands out as the alpha of scientific accomplishment in the field of comparative pathology. Almost a century later Pasteur's investigations in anthrax recorded the first bacterial disease in animals that was proved communicable to man. Bacteriologic research has made possible innumerable advances, and at this time much is known in the field of comparative hygiene which may be applied in behalf of public health. Scientific study of animal diseases in the United States was initiated by land grant colleges. Fortunately, the early leaders in agricultural education recognized the potential value of research in animal diseases. As a result there are, aside from ten state supported veterinary schools for training veterinarians, research departments of animal pathology in state agriculture colleges that have experienced a useful and productive field of service. One phase of the work in animal pathology at the University of Illinois includes diagnostic service. Of the 17,322 specimens submitted for diagnosis in 1929, 9,218 or more than 50 per cent of the specimens were of concern to public health or involved potential infections to man.

Animal Pathology Studies Aid Public Health. Aside from the training of veterinarians the results of many worthwhile American investigations have clarified our understanding in developing efficient control measures against contagious diseases of animals. These advances in animal hygiene have in some instances been a direct aid to human health and happiness. Hall, in his the investigational work of Umeno of Japan on medical profession the modern treatment for hookworms in man. The development of anti-glanders serum by McGillary and co-workers has made it possible for the physician to treat successfully this malady in the human patient, while the investigational work of Umeno of Japan on the prophylaxis of rabies in dogs and tentatively adopted in the United States is recognized as a step in the right direction to suppress this malady from the realm of human ills. Davis, Frost, and Hadley in studies of septic sore throat in man and bovine mastitis have definitely traced

the source of infection to the bovine udder, while more recently Jones and Little of Rockefeller Institute have reported the isolation of the streptococcus of scarlet fever from bovine sources. The discovery of the *Brucella* genus in man by Huddleson, Moore, and Carpenter in North America, in substantiating the contention of Evans on the biologic relation of porcine and bovine *Brucella* types to undulant fever in man, have enabled physicians in many communities to definitely recognize a vaguely defined human fever and to hopefully approach the solution of this infection in man with a degree of understanding.

The indirect results of animal pathology investigations have served public health graciously. It was Smith and Kilbourne who first proved the carrier feature of the tick in the dissemination of cattle fever. This work was followed by the notable achievements of Reed, Gorgas, Rickets, Noguchi, and others in unravelling the mystery of insect-borne diseases and the development of scientific methods of suppressing these diseases of man.

Recommendations of Physicians. As the result of these and other contributions and a widespread understanding of the significance of animal and human pathological problems, there is a general and growing appreciation, among thinking members of the medical professions, of the importance of animal diseases in the solution of ills of man. Indeed, it is not uncommon for the alert physician to direct attention to the local veterinarian. In a recent address by Dr. James Stewart, State Health Commissioner and Secretary of the State Board of Health, Missouri, he says:

"In many instances the practicing physician can well afford to cooperate with the practicing veterinarian and likewise urge such cooperation on the part of his patients. As a little illustration or two we shall assume that a case of undulant fever is diagnosed in the home of a farmer. In order to prevent further spread of the disease in the family and in the community, it would be well for the physician to suggest that a veterinarian be employed to make an examination of the cattle, draw blood samples, and send them to a laboratory, in that way learning the exact status of the herd from which the family milk supply was obtained. The same rule could apply in the case of tuberculosis. We must not overlook the fact that many human diseases have their origin in domestic animals. When these diseases are encountered, the family physician who advises his pa-

tients to consult the veterinarian in order to see if such diseases have actually originated in some of the livestock on the premises is pursuing a wise policy. Such a course is particularly advisable in case of a bite inflicted by a suspicious dog. The dog should be placed under the observation of a competent veterinarian, simply because he has received special training in the diagnosis of diseases of domestic animals, and if not, ought to be in a better position to make a more accurate diagnosis in animals than is the average practicing physician."

On several occasions it has come to the attention of the Illinois Experiment Station that the veterinarians in Illinois have supplied helpful clues and suggestions to the physician in enabling him to correctly diagnose or eliminate trichinosis, milk sickness, tuberculosis, botulism, and tularemia. On the other hand, some of the most potent and appreciated suggestions from physicians have come to the veterinarian in the solution of animal disease problems. As a result of these and many other helpful contacts between veterinarians and physicians on problems of comparative pathology with particular reference to milk and meat inspection, it is generally conceded that the time has arrived, in the prevention of obscure ills of man traceable to contact with animals, when the physician can consult his confrere, the veterinarian, in tracing certain clues to the chicken house, the bird cage, the hog pen, or the dairy barn to eliminate or incriminate potential sources of infection.

A Text for Reference. In a scientific review of the general considerations of animal diseases transmissible to man, there has been a need of reliable reference. To fulfill this need, the attention of physicians and veterinarians is invited to the splendid text of Dr. Hull of the American Medical Association. This book gives the reader an abundance of authoritative information in a concise form. From a few abbreviated lectures on this subject a few years ago, the results of investigations of the past decade have grown to be of such significance that the field of comparative pathology now assumes a prominent place in human and veterinary medicine. In the present day problems the veterinarian and physician must join their forces to the mutual advantage of the public, and the text referred to constitutes a splendid guide in this field.

Qualified Veterinarians Serve Health Boards. The practical approach to the public health problems which confront the physician and veteri-

narian may vary in different localities. A practice of long standing in the larger cities of having one or more veterinarians on the health board has potential possibilities worthy of consideration for smaller towns. Every city health organization should have the counsel and advice of a qualified veterinarian on animal disease problems that concern public health. Local conditions will obviously influence progress in such an arrangement. Indeed, the lack of qualified veterinarians in a few localities is a factor which places an unusual responsibility upon State Schools of Veterinary Medicine. The only source of supply of veterinary service is through the colleges and universities. While the veterinary curricula have been improved in recent years, there remains much to be accomplished in an educational way to bring about the proper training and proper recognition of the veterinarian in his field. The veterinarian, like the physician, is a necessity in modern civilization. The demand for veterinarians has produced a certain development to date, but the training required has advanced more rapidly than the general public appreciates or the present educational forces can supply. The medical profession can recall without difficulty the great changes which have taken place in the medical curricula as well as in medical practice in recent years, and none can safely predict the requirements twenty years hence. Unless the quality of veterinarians can be improved, the livestock industry as well as investigational progress in animal diseases essential to the solution of public health problems as well as the extension of meat and milk inspection for smaller cities may suffer serious setbacks.

SUMMARY

In summarizing this brief discussion, it may be well to keep in mind that in the State of Illinois there are approximately 7,000,000 people who are dependent upon 11,000 physicians for information regarding health. Approximately one physician to every 633 persons. In the same territory there is a population of about 33,000,000 food-producing animals, including barnyard fowls. Man is dependent upon these animals for food and clothing. Certain of the animal diseases such as tuberculosis, rabies, glanders, anthrax, *Brucella* infections of cattle, goats, swine, and possibly chickens, septic sore throat, and

certain specific dermatoses, actinomycosis, and a group of parasitic infections including ringworm, pork and beef measles, and trichina are communicable to man. There are approximately 600 veterinarians in the State who are especially trained in the suppression of these diseases, or one veterinarian to each 3,300 dairy and beef cows, 8,555 swine, 1,163 sheep, 583 dogs, and 41,666 chickens. The average Illinois veterinarian's services extend to 50,000 potential animal patients.

In guarding the livestock industry, veterinary services are most economically employed to prevent disease. Likewise, his services are valuable in the protection of human health through the suppression of certain animal ills communicable to man. In fact, some diseases of man traceable to animals may be most hopefully suppressed by the veterinarian. To this end the veterinarian may be advantageously used in extending our meat and milk inspection program, while consultation in matters pertaining to animal health may assist the physician in checking diseases of man traceable to animals. At least this appears to be the most logical method of approach at the present time in accomplishing the greatest good to the public in problems involving animal diseases and the health of man.

DISCUSSION

Dr. W. A. Evans, Chicago: Dr. Graham's excellent paper leads up to a proposal that a qualified veterinarian be a member of each health board. Applying what he writes to Illinois, the proposal is that a legally licensed veterinarian be one of the five who constitute the Advisory Board of the Department of Public Health, State of Illinois.

The law providing for such a board was passed by the legislature something less than twenty years ago. It provides for a director of health, who is the administrative officer, and who is solely responsible for the conduct of the department. This is as it should be. Administration by a board is never satisfactory. The Illinois board has no responsibilities, nor does the law define any duties. One state director did not ask his governor to appoint a board. Another used the board as a quasi-legislative or rule making body.

The present board is composed of one representative of the largest health unit in the state, three representatives of the medical profession, an important health agency, and one who might be designated as a representative of public health aside from governmental agency. If a veterinarian were to take a place on this board he would have to displace some representative already there, and he might be in competition with representatives of the following group activities, all

of which are connected with some phase of health and some of which are desirous of representation: The medical profession, the sanitary engineers, the dentists, the nurses, the women's clubs, the tuberculosis societies, the infant welfare societies, and some other large, local health departments. There are states in which some of these are represented as a legal requirement. Such are: Dentists, sanitary engineers, women's clubs, and medical societies.

All in all, membership on this advisory board is not the best place for a veterinarian. A better proposal is that a bureau of animal diseases should be organized within the Department of Public Health. The chief of that bureau would have some authority and his bureau would have some equipment of money and men. This could be brought about by so simple a measure as the appropriation for such a bureau by the legislature.

Another suggestion—and one not incompatible with the one just made—is that the law provide for an interlocking relationship between the State Director of Health and the State Director of Agriculture, or the State Veterinarian, now a bureau chief in the Department of Agriculture.

Dr. Graham properly emphasizes the diseases which are shared by man and animals. Some very important diseases, such as tuberculosis, rabies, undulant fever, and tularemia pass readily back and forth between men and livestock. The health department realizes it cannot protect human beings against rabies without having the service of veterinarians and they use such service. In Illinois they have done some joint work on tuberculosis, undulant fever, milk sickness, and botulinism. The relative increase of importance of food poisoning due to paratyphoid group organisms calls for still more cooperation. The tuberculosis question is developing phases which seem to indicate greater need for joint effort than has prevailed in the past.

There can be no disagreement with Dr. Graham on any essential covered in this part of his paper. Dr. Graham says: "Unless the number and quality of veterinarians can be maintained, the livestock industry . . . may suffer serious setbacks." "In Illinois there are approximately 600 veterinarians, or one to each 1,666 dairy cows, 8,555 swine, 1,163 sheep, 583 dogs, and 41,666 chickens. The average veterinarian's services must extend to 50,000 domestic animals."

The trend of veterinary medicine challenges the careful consideration of physicians, particularly of those interested in rural health.

Dr. Thomas G. Hull, Chicago: I just want to add a word or two. Our animal diseases are decreasing in frequency as we find out more about them. There is a tendency on the part of some workers to put much emphasis on a disease where only an occasional human case is reported as undulant fever. There is a very good reason for putting particular stress upon such conditions, because there are factors we do not know and until we determine those factors we are in the dark. I do not know how many missed cases of undulant fever there are or how many cases are being

treated regularly. We do not know the epidemiology of this disease.

So this relationship of the veterinary profession and the medical profession must be more strongly emphasized that we may find out these things. I believe that in the future, perhaps in the not very distant future, our veterinarians are going to be trained not in the agricultural schools but in schools that are connected with the medical schools. All the basic sciences are the same, except the veterinarian has a much more difficult problem because he must know the comparative pathology, and what not, from the mouse to the elephant, while the medical profession has just one animal to deal with.

I want to emphasize also what Dr. Evans suggested, the possibility of including the veterinarian in the health department.

RINGWORM OF THE SCALP IN CHILDREN TREATED WITH THALLIUM ACETATE*

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In the latter part of 1928 the use of thallium acetate in the treatment of ringworm of the scalp was instituted at the Northwestern University. The drug was administered at the dispensary to twenty children varying in age from one and one-half to ten years. Cultural and microscopical examinations showed that sixty per cent. of the cases were caused by microsporons, and the remainder were due to the trichophytons. The duration of these lesions prior to the use of thallium acetate varied from several weeks to two years. All had previously received local medication and one had a partial x-ray epilation. We used 8 mg. of the drug per kilo given by mouth in a single dose. In from fourteen to sixteen days the majority showed complete epilation. In those in whom epilation was not complete in three weeks, the remaining hair could be painlessly removed with adhesive tape. The local use of Whitfield's ointment was started during the period of epilation and continued until the patient was discharged. Thus far no recurrences have occurred, and repeated bacteriological examinations have been negative. All children who had received 8 mg. per kilo showed no untoward reactions. One child aged seven years, however, received 8½ mg. per kilo and he devel-

*From the Department of Dermatology, Northwestern University, service of Dr. Arthur Wm. Stillians.

oped a neuritis of the lower extremities. The following cases are illustrative:

Case 1. History: Arthur R., colored boy, aged 7, weighing 47¾ lbs. (21.7 Kg.), was transferred to the skin department April 23, 1929. Examination revealed a number of coin sized bald patches scattered over the

On June 27, pain in the lower extremities practically gone.

On July 18, few small pustular lesions were noticed in the occipital region.

On August 1, hair all grown in. No signs of ringworm.



FIG. 1A
Appearance of patient with tinea microsporon.

FIG. 1B
Same patient showing regrowth of strong healthy hair after thallium epilation.

scalp. Some were larger than a quarter and showed broken-off hair above the skin level. The condition was diagnosed as tinea microsporida (fungus positive).

Treatment: On April 25, 1929, thallium acetate 0.19 gm. was given by mouth in one ounce of distilled water.

On May 9, epilation was partially complete; Whitfield's ointment prescribed.

On May 16, epilation was complete and a photo of scalp was taken.

On August 29, scalp was in good condition.

On August 31, blood Wassermann ++++.

On September 26, no signs of ringworm on the scalp or any untoward effects of thallium have been noticed for the past two months.

Case 2. History: James T., aged 5, weighing 40 lbs. (18.1 Kg.), was transferred to the skin department April 25, 1929. His scalp showed several num-



FIG. 2A
Tinea of the scalp produced by the microsporon audouinii.

FIG. 2B
Appearance of patient eighteen days after the intake of thallium acetate.

On May 23, patient complained of soreness in the lower extremities.

On June 6, hair growing in. Still complains of soreness in lower extremities.

mular and oval distinctly outlined patches of a dusty appearance, varying in size from that of a quarter to that of a dollar, with broken-off short hair and covered with grey scales. Cultures from scales and hair

showed this case to be a microsporon infection of the scalp.

Treatment: On May 9, 1929, thallium acetate 0.14 gm. was given internally.

On May 23, the hair started to loosen and come out.

On May 30, epilation was complete; the thallium had caused no untoward effects.

On June 6, Whitfield's ointment continued and photo of scalp taken.

On June 13, the scalp was entirely clear, all the lesions were healed, and the hair had started to grow in.

On July 20, the hair had regrown further.

On August 6, no lesions of any kind were present. The patient was discharged from the skin department.

Case 3. History: Edward O., a colored boy, aged 5, weighing 36¼ lbs. (16.5 Kg.), was admitted to the dispensary October 24, 1928. His scalp showed four oval distinctly outlined patches on the right side over the occipital region. The lesions were coin sized, of a dusty appearance, with broken-off short hair and covered with grey scales. Cultures from hair and scales showed this case to be a trichophyton infection.



FIG. 3A

Appearance of patient with kerion celsi.

FIG. 3B

Thallium epilation eighteen days after intake.

Treatment: On November 22, 1928, thallium acetate, 0.13 gm., was given orally.

On December 13, the hair began to loosen and come out.

On December 20, epilation was practically complete; Whitfield's ointment prescribed.

On March 21, 1929, the thallium had caused no untoward effects; the hair had regrown.

On May 9, cultures taken from scales and hair from previously infected areas were negative.

On June 6, no lesions of any kind were present; patient was discharged from the dispensary.

Case 4. History: Billy W., white boy, aged 6, weighing 45 lbs. (20.4 Kg.), was admitted to the dispensary August 24, 1928. His trouble was limited to the back of the scalp and consisted of several coin sized well defined patches covered with grey scales and broken-off hair. Cultures from hair and scales showed this case to be a trichophyton infection.

Treatment: From August 24, to November 8, 1928, patient was treated with local salves with no apparent results.

On November 8, 1928, thallium acetate 0.16 gm. was given by mouth in an ounce of water.

On November 22, epilation was complete; Whitfield's ointment prescribed. Patient did not return for further observation for some time. Report from the social service department showed the child to be suffering from an acute attack of influenza.

On January 12, 1929, patient returned to dispensary. The hair had regrown, but there were a few suspicious scaling patches on the back of the head. Cultures taken from these areas were negative.

On January 16, picture taken of scalp condition; otherwise same as during last visit.

March 21, scales and hair from previously infected areas taken (and later) proved to be negative.

May 16, no signs of ringworm on the scalp; patient was discharged from the dispensary.

Case 5. History: James G., a white boy, aged 2, weighing 26 lbs., was admitted to the dispensary April 9, 1929. Examination showed a single bald patch, well defined, about the size of a dollar, and covered with grey scales. History of his sister having the same trouble. Cultures from hair and scales showed this case to be a microsporon infection.

Treatment: On May 9, 1929, thallium acetate 0.1 gm. was given by mouth in an ounce of distilled water.

On May 28, epilation complete; Whitfield's ointment prescribed.

On June 13, no untoward effects from the thallium acetate. Local treatment continued.

On July 18, hair growing in.

On August 8, hair all grown in. No signs of ringworm. We were not able to observe this patient further, but it is interesting to note that this child was but two years old.

Conclusions:

Thallium acetate is a valuable drug in the treatment of ringworm of the scalp in children. It is a much easier form of treatment than x-rays, particularly in young children. Furthermore, one can produce complete epilation without fear of permanent alopecia. The toxic qualities emphasized by some have not occurred in our series and may possibly be avoided by strict adherence to proper dosage.

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PHRENICO-EXERESIS IN THE TREATMENT OF PULMONARY TUBERCULOSIS*

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The treatment of pulmonary tuberculosis has, since the advent of the sanatorium, been based upon the factor of rest. The educational pro-

*Read before the 54th Annual Meeting of the District Medical Society, Pana, Illinois, April 29, 1930.

gram for the patient has added the factor of mental relaxation to that of physical rest and there has resulted a definite rise in the percentage curve of those making favorable progress.

The third rest factor—that of local rest—makes possible, from the theoretical standpoint, a complete armamentarium for the phthisiologist for the control of any case embarking upon the “cure” before the disease has made irreparable inroads upon the total area of lung tissue and before complicating extensions to other organs have taken place.

Local lung rest is accomplished in the form of compression of that organ and, when successful, so-called compression therapy may be expected to result in immobilization as well as compression effects. While the chief effect of immobilization is the assistance given to fibrous tissue formation, compression of the tuberculosis lung results in:

1. Obliteration of cavities.
2. Formation of fibrosis (a healthy lung under compression will become uniformly fibrosed throughout).
3. Expression of fluid material—reducing toxemia.
4. Rendering sluggish the flow of blood and lymph, thereby lessening the opportunity for blood or lymph-borne extensions.
5. Reduction in lung volume.

The local rest factor in treatment has been applied to the small group of patients who have failed to make favorable progress under the regime of physical and mental rest. The indications for instituting local rest should not include those cases whose lesions show satisfactory retrogressive tendencies under the hygienic-dietetic regime.

Advances in the field of lung surgery with respect to pulmonary tuberculosis followed upon the good results obtained from induced pneumothorax. This latter form of compression has been in routine use for many years and has undoubtedly been responsible for retrogression of lung lesions that would not have halted their progressive tendencies without use of this adjunctive measure.

The indications for compression of the lung with atmospheric air or other gaseous body have become well standardized. Definite guides for the termination of this form of treatment have, so far, not been satisfactorily advanced. When, therefore, to the traumatic complications of its administration as, for example, pleural effusion,

spontaneous pneumothorax, pleural shock, etc., we add the necessity for “refills” covering a period of usually not less than two years and perhaps continuing at more infrequent intervals throughout the life of the patient, or running the risk of finding or perhaps causing “activity” which will require additional surgery for its attempted control, we cannot consider that in artificial pneumothorax we have a procedure for lung collapse that is ideally suited to our compression needs, even when supplemented by thoracoplasty.

Paravertebral extrapleural costectomy has for its object the collapse of the lung through removal of its chest wall support. Even when done in two or three stages, the removal of large pieces of each of several or all of the ribs cannot but result in shock that places the procedure in the realm of major operations. It is expected that the present mortality percentages from thoracoplasty will be lowered when better surgical risks are selected for this operation. The lung collapse is permanent making it altogether advisable, before attempting this surgical measure, to make test of the ability of the contralateral lung to carry on without progression of its own lesions. Thoracoplasty in the minds of the conservative group of phthisiologists, is, therefore, a surgical procedure indicated only when satisfactory results are not possible of accomplishment by any of the other compression methods. When used according to such indications thoracoplasty is assured a permanent place in the lung surgery of pulmonary tuberculosis.

Although a method of compressing the lung in its vertical diameter by producing paralytic rise in the homolateral half of the diaphragmatic muscle, commanded our attention in the United States about the same time as thoracoplasty, indications for its use have not kept pace with the major surgical method. For the past year or two, however, phrenicectomy has been productive of such important results that we are being provided with more and better material upon which to survey its indications, compression effects and treatment results.

In the operation for the avulsion of the phrenic nerve fewer anomalies are encountered when incision is made 2.5 to 5 cm. above the clavicle. Although simple section or crushing of this nerve and its paraphrenic and cervical

sympathetic branches will give a temporary paralysis of the diaphragm on the operated side, such dissection for identification of the accessory branches is accomplished with considerable more difficulty than the phrenicectomy. While in actual practice the complications for a carefully done phrenicectomy are infrequent and of minor character, a phrenicotomy which endeavors to dissect out intrathoracic branches occasionally develops mortality.

A successful phrenico-exeresis results in a permanent rise and immobilization in its expiratory position. The amount of rise varies in accordance with the retractility of the lung as well as costophrenic or other dense adhesions and usually attains a height of from 2 to 11 cm. A 15 to 35 per cent. reduction in lung volume results and corresponds to a compression by pleural air of several hundred centimetres and a spirometer reduction of approximately 30 per cent. Until recent years lesions other than basal were considered as contraindicating this procedure.

The retractility of the lung governs its compression performance and dense apical adhesions will obviously set at naught attempts, by this method, to close a cavity with apical location. On the other hand, a basal cavity may become more efficiently compressed when adhesions at the base are extensive, for the reason that, as the diaphragm makes its attempts to rise, the upper zone of adhesions tend to limit the compression.

We feel that perhaps the most important indication for phrenic nerve avulsion is a small unilateral lesion showing progressive tendencies despite satisfactory rest regime. Another, and scarcely less important indication is when in the presence of more extensive disease, artificial pneumothorax cannot be accomplished or has failed, and when thoracoplasty is not indicated either because of the poor surgical risk or because the character of the lesion in the contralateral lung does not permit of a permanent form of compression on the more diseased side. We have all had the experience of observing cavities of large size completely close within a few months following phrenicectomy.

It is also a measure of considerable adjunctive value to other local splinting procedures, such as:

1. The prevention of reactivation by a tearing of the fibrosis upon reexpansion, when artificial pneumothorax has been terminated too early.

2. Reducing the cage diameter when the lung does not reexpand to fill the pleural space at the end of pneumothorax treatment.

3. To test the functional capacity of the other lung preceding a thoracoplasty.

4. To control hemoptysis when neither artificial pneumothorax nor thoracoplasty are indicated.

We have utilized phrenic nerve compression therapy in a series of 15 cases using the indications outlined for principal rather than adjunctive results. In no case have we failed to produce complete cavity obliteration or to halt disease progression. Clinical improvement was in every case promptly brought about and roentgenograms indicated a satisfactory healing process. In our series, we experienced diaphragmatic rises reaching to the 3rd rib and elevations continued for 6 to 8 months in some cases. There were no pneumonias in this series, and the only complication encountered was a pupillary disturbance with slight ptosis of the upper eyelid—the condition clearing after a few months.

Conclusions: Phrenicectomy has a compression value of one-fifth to one-third of the lung volume. This amount of compression is entirely adequate for controlling small progressive lesions, including many cavities of large size, when conditions of lung retractility and adhesions do not exert restricting influences. Larger lesions though but partially compressed frequently show favorable response.

It is a procedure requiring very close medical supervision involving serial stereo-roentgenography.

Its results are most uniformly good when compression is started early enough so that the entire lesion is well splinted.

Phrenico-exeresis should never be instituted in the early case responding to rest regime and offered for the sole purpose of shortening the period of the "cure." If the patient has reasonable prospects for an arrest of his pulmonary process under rest regime this important adjunctive treatment measure should be withheld against the time of a possible future reactivation.

When rest regime appears without favorable influence and phrenicectomy cannot hope to be of value or has been tried and there has been no prompt clinical or other improvement, artificial pneumothorax should be attempted with a minimum of delay.

Thoracoplasty is a surgical measure that should be used earlier in the disease and is indi-

cated in every case in which pneumothorax has been indicated and has failed. It should always be preceded by a phrenico-exeresis both to aid in its own compression as well as to test the functional capacity of the contra-lateral lung.

Phrenico-exeresis, though in skilled hands an operation of minor surgical character, should not replace sanatorium or other rest regime but should supplement it.

ACUTE MAXILLARY SINUSITIS WITH MENINGISMUS—CASE REPORT*

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Meningitis of nasal origin is fortunately a rare disease. Meningismus or meningeal irritation may occur in any acute condition. In children particularly there is a possibility of meningeal symptoms occurring in diseases other than those of the brain and meninges. R. H. Kuhns reports a case of meningismus in a boy of nine years coincident with lobar pneumonia. The writer has seen a case of meningismus in a girl of eight years associated with an anaphylactic reaction five days after the administration of diphtheria antitoxin. Temperature reached 105 degrees with typical meningeal symptom complex. Spinal puncture revealed normal spinal fluid. Prompt recovery occurred in a few days.

Meningismus present during the course of an acute maxillary sinusitis is unexpected and uncommon. As the antra of Highmore do not encroach and are not contiguous to any cranial structures a meningeal reaction appears far-fetched; but it seems reasonable to presume such may exist in the presence of an acute sinusitis presenting marked toxemia. Vertigo is often based on toxemia of focal origin. Sir Wm. Wilcox stresses the sinuses as a definite focus of bacterial infection which acts as a distributing center for toxins and so brings about toxemia and its resulting effects.

The finding of an unsuspected empyema of the maxillary sinus may be a surprise, and emphasizes the definite relationship of acute sinus infection to acute as well as chronic systemic disease. L. W. Dean, Marriott and Clausen, and

W. L. Burnap state that a very small percentage of antral infections is diagnosed early and that part or all of the clinical symptoms may be absent. In acute conditions the clinical symptoms are often more obvious.

Francis P. Emerson writes that in a chronic suppurative maxillary sinusitis where the tissues are involved superficially the danger to remote organs in most cases is not marked as long as the pathology is confined to the lining membrane, but if the periosteum is included then danger to the blood stream may follow and be a menace to the health or even the life of the patient. Furthermore, given an antrum with a thickened membrane or one undergoing secondary atrophy any change in the circulation of the blood and lymph at the base of skull would naturally be followed by reflex symptoms. Stasis, pressure or any condition which would cause hyperemia often cause vasomotor symptoms.

The following case is a paranasal sinus infection marked by symptoms of meningeal irritation which immediately disappeared after treatment of the maxillary sinuses.

CASE REPORT

W. K., aged 11 years, admitted to Mt. Sinai Hospital, Aug. 4, 1928, at 9:30 P. M. on the pediatric service. The complaint was frontal headache with nausea and vomiting of four days' duration.

Present History: Well until four days ago when shortly after eating some sandwiches at a party developed persistent frontal headaches of a throbbing character, vomited several times each day, at one time with a spurt, no abdominal pains, some fever.

Past History: Measles, bilateral otitis media of few weeks' duration 6 years ago, occasional nose colds. Aug. 5—Examination by Drs. Borovsky and Aries. Temp. 101, complained of severe headache during night, suggestion of rigidity of neck, no Kernig, no Budzinski, no tenderness on deep pressure over frontal and maxillary sinuses, ears negative, no mastoid tenderness, thick mucopurulent discharge in both sides of nose and in nasopharynx, chest and abdomen negative. Bl. Pr. 108 S. 60 D.

Urinalysis: Alb. +, acetone +, sugar o. Blood exam., Hg. 80, R. B. C. 5,000,000, W. B. C. 18,000, N. 78%, L. M. 20%.

Impression: Meningitis, G. I. basis, sinusitis, influenza. X-ray of sinuses ordered. Aug. 6: Still severe frontal headache, vomited during night, Temp. 102 degrees, suggestion of Budzinski. Kernig with some rigidity of neck, Babinski negative. Chest and abdomen negative. Spinal puncture ordered. X-ray of sinuses shows cloudiness of all sinuses. No palpable tenderness over sinuses. Urine contains trace albumin. Blood exam.: W. B. C., 15,000, N. 77%, S. M., 1%, L. M.

*From the service of Dr. Noah Schoolman, Mt. Sinai Hospital.

22%. Referred to the E, N & T department, Aug. 6. Examination by Dr. N. Schoolman; both nostrils contain pus, septal deviation and hypertrophied turbinates, general moderate congestion of pharynx including tonsils, no pus expressed from tonsils, stream of mucopurulent secretion coming down pharyngeal wall, left lower premolars carious, slight rigidity of neck, ears negative, no pain.

Treatment: Large amount of pus suctioned from both nostrils. Under local anesthesia both maxillary sinuses irrigated. From right antrum return fluid contained large amount of thick floccules of pus. Small amount of pus removed from left antrum. AgNo₃ 2% instilled. Specimens to laboratory.

Aug. 7: Temp. 100, much improved, no headache, no vomiting, right ear began to discharge this morning without pain, no rigidity, reflexes normal, nostrils suctioned, less pus.

Aug. 8: Temp. 99, no headache since irrigation of sinuses, appetite better, face brighter. Daily treatment: Suction applied with canula directly to mass of secretions within nasal chamber and not by the occlusion method, ephedrine 3% followed 5 minutes later with 10% neosilvol instilled into nose every 4 hours. Laboratory reports: Culture of pus showed pure culture of staphylococci, spinal fluid negative, Widal negative. Aug. 14: Discharged. Both nostrils open and free from discharge, feels fine, right ear dry.

I wish to thank Dr. Schoolman for the privilege of reporting this case.

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MIRRORS OF PARANASAL SINUSES*

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Much has been written and much remains to be written on this important subject. The medical profession is more or less the object of criticism by the public, and probably justly so because of the impression given that sinus disease is incurable and relief obtained only by a sojourn in a warm climate. If that is true, the north will soon be deserted. It is high time we correct this opinion.

To know sinuses one must have a thorough knowledge of the anatomy of the nose and paranasal sinuses, so when dealing with a problem in this field a vivid picture may be unreeling before the eyes showing the anatomy as well as the

pathology, for it is the early minute changes in the tissues that spells success.

The old adage, "Find pus and follow it to its source" is passé, because there are many cases of sinus disease where there is no pus.

To be a good sinuologist, one must be a careful observer and systematic in examination, noting the slightest change from the normal.

I do not believe the problem of diseased nasal sinuses will be met successfully until the public is taught to know that head-colds are symptoms which require early and careful care, and until that same public is freed from the obsession that the infection is only a cold and will disappear in a few days. It is these first mild attacks which predispose to the chronic sinus disease and in turn produce many obscure symptoms. A glimpse into the nose and an x-ray will not make a diagnosis.

The diagnosis of suppurative sinusitis is not difficult, for by a process of elimination the infected sinus or sinuses can be found.

The non-suppurative type of disease requires the most careful examination, and the eye of the observer must be familiar with the appearance of the normal mucous membrane, for slight changes in the normal may be overlooked and the diagnosis fail. It is necessary, as far as possible, to look into each sinus before coming to the final conclusion for the radiogram, transillumination and symptoms in themselves will not make the diagnosis.

The patients who complain of frequent head-colds, frequent use of the handkerchief, unilateral headaches, are subjects for careful nasal examination, and unless we look into each sinus the diseased one may be overlooked.

Not infrequently one hears the remark after an examination that the pathological changes are not sufficient to produce symptoms. It is well to remember that patients react differently to tissue changes and the doctor should recognize this fact and correct the pathological area.

The pharyngoscope is a valuable instrument in nasal examinations and will reveal many pathological areas which might be overlooked by anterior and posterior rhinoscopy; this instrument should be used freely. It is necessary to be familiar with the normal tissue.

I have found the use of a small cotton applicator a valuable instrument, which I call a

*Read before the Section on Eye, Ear, Nose and Throat, Illinois State Medical Meeting, May 21, 1930.

"feeler"; this I pass gently over the mucous membrane in various obscure areas and inspect the cotton pledget for blood stain which usually means granulations. When the cotton is stained, that area should be examined carefully for disease.

The use of light suction I find most beneficial in locating catarrhal sinus disease. If the disease be present, light suction causes the appearance of mucus in the area of the sinus or sinuses involved. Harsh suction must be avoided.

An area to which I would like to direct special attention is the hiatus semilunaris. This area I have been examining most carefully and am surprised at the variation in its formation. There are pockets within it which may harbor infection and it should be inspected carefully. When the disease is found the uncinate process and surrounding cells should be removed.

In children where sinus disease is suspected, it is practically impossible to make a thorough examination and one should give an anesthetic, make the examination and proceed with the treatment necessary. When adenoids and tonsils are to be removed in suspected sinus cases, I always make a pharyngoscope examination before proceeding with the operation.

No one method is 100 per cent. in diagnosing sinus disease; we must resort to radiograms, transillumination, anterior and posterior rhinoscopy, pharyngoscope and sinus filling; then and only then can diseased sinuses be diagnosed.

There is much to be read in the literature of today regarding injecting or displacement fillings of sinuses with opaque substances such as lipiodol, camiodol, brominol, etc.

In studying cases in which the sphenoid had been injected, I noticed a variation in the appearance of the lining membrane of the maxillary sinus and decided to examine normal cases. With this in view I collected cases supposed to have normal sinuses, since there was no history of nasal trouble. So far, I have been able to find only ten such cases in my clinic at St. Luke's Hospital.

To begin with, x-rays were taken without injection, then taken again following an injection of lipiodol and every case showed some defective filling. I thought the lipiodol probably was an irritant producing the variation. When the case returned a week later, suction was used for a few

moments, the sinus again injected and the filling defect was not the same as in the first pictures, the thickening appearing more marked on the mesial wall. A week later, I irrigated the same sinus with a normal salt solution and again injected lipiodol; this time all the walls seemed thicker.

In diseased maxillary sinuses, the filling defects were more marked after irrigating. In one case I found defective filling at the menstrual period.

In the last issue of the *Annals of Otology, Rhinology and Laryngology* an article by Dr. Proetz appears dealing with mucous membrane thickening in allergy cases. This has been my observation also.

In investigating the sphenoid sinuses no special changes in the mucous membrane was detected. The number of cases examined are few but if the lining of these cavities is affected after some form of irritation, one must be hesitant in pronouncing a case pathological because of defective filling.

In these cases most of the attention was given to the examination of the maxillary sinuses. I intend to continue these examinations in the hope that they will lead to definite conclusions.

I want to express my appreciation to Dr. Jenkinson of St. Luke's Hospital and Dr. Maximilian J. Hubeny for their kind assistance in this work.

DISCUSSION

Dr. A. H. Andrews, Chicago: I should like to raise one question. Speaking of normal sinuses, I question whether there are any absolutely normal sinuses after the patient has once suffered from a severe cold in the head.

Dr. S. Salinger, Chicago: I rise to defend Dr. Guttman. I cannot figure out how it would be possible to have a triangular opacity in the center of the sinus and the rest filled with material and still have it be a clear sinus. It must be levitation.

Dr. J. A. Cavanaugh, Chicago: I appreciate the discussion on my paper and would say that careful examination including x-ray and pharyngoscope findings were made. Any case of which there was the slightest doubt of its being normal I discarded, which accounts for so few cases reported. I am going to continue this work to verify my findings.

I was very careful in injecting these sinuses. As Dr. Beck says, there may have been faulty instruments or technic, but this I was very careful to avoid. If such faulty technic did exist it is one more reason that defective filling is not positive proof of a diseased sinus. This is the point I want to bring out in this paper.

When we find a defective filling we are told in most of the literature today that there is pathology in the antrum and it should be opened. I claim that this is not true, that we should be very careful in selecting our cases for operations because of defective filling.

COMMON PYOGENIC SKIN INFECTIONS AND OBSERVATION ON THEIR BIOLOGIC TREATMENT*

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Infections of the skin with pyogenic organisms are amongst the troublesome diseases of infancy and early childhood. A similar problem confronts the physician when he treats the case of acne in adolescence. Acneform lesions of face and back that occur and recur at the menstrual period are annoying, and their pathogenesis is a similar infection.

Pyogenic infection in infancy may present the picture of an impetigo which is frequently bullous and often epidemic in large obstetrical wards. It is a serious disease in these newborn infants and often goes on to keratolysis, frequently a fatal disease.

The furunculosis of infancy, particularly of poorly nourished infants, is common in the practice of every physician handling children. The common site of these lesions is the scalp, neck and back. They occur in crops, beginning as tiny inflammatory papulae around hair follicles and containing, at first, only a small drop of purulent material. Cellulitis of the scalp, perioritis and osteomyelitis of the bones of the skull and even extension through the sutures, or by the lymphatics into the meninges or brain itself occur. Infections in these infants are not infrequently accompanied by very high temperatures, and death may result. A miliary impetigo pustulosa occurs frequently in well nourished infants. The lesions are small and superficial. The blebs can be broken by abrasion with gauze. Large areas of skin may be denuded, leaving areas for secondary involvement. The common

impetigo of infancy characterized by its tremendous bullous formation on a reddened burned-like base with rapid exfoliation at the edges is likewise of staphylococcus origin. It is frequently described as pemphigus neonatorum. The lesions may be discrete or may coalesce, leaving a denuded area with such great involvement that death results just as from an extensive burn. Another type of lesion is a solitary deep seated furuncle originating in the subcuticular fat. Its site of election is the thighs and occasionally the face and intrascapular region. It not infrequently recurs as a single lesion in adjacent areas. The incidence of acne at adolescence makes it an easily recognizable disease. Both for the cosmetic reason and because of the slight, but nevertheless possible danger of systemic infection, this disease merits more than casual consideration. On several occasions we have seen chorea and endocarditis subside concomitantly with the disappearance of acne lesions. Skin infections and particularly furunculosis of the inner triangle of the face (the inner one-third of the face above the upper lip) are of serious import, and not infrequently lead to intracranial complications and death. Recurrent folliculitis and formation of deep abscesses in the axilla are not uncommon. Their basis is the same as that of the lesions previously described. None have produced more difficulty in treatment than these. The disease is often prolonged, recurrent and disabling.

Surgical treatment and the local application of antiseptics for the relief of pyogenic infections of the skin are disappointing in many instances. Besredka and others have reported favorable results with wet dressing of staphylococcus broth filtrates. There is some inconvenience in this method due to the necessity of aseptic conditions for the broth filtrate and there is an additional waste of the product in its absorption by the dressings.

It occurred to us that if a base could be used containing a high aqueous content, substitution could be made of staphylococcus broth filtrate for a part of the water. A vanishing cream with a normal content of 75% water was made with all the ingredients except three-fourths of the water, and after it was mixed and cooled, the broth filtrate was added, so that there was approximately 55% of broth in the final product.

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The second experiment was conducted with twelve to fifteen day whole broth cultures and since it compared favorably with the broth filtrate, our clinical results are based largely upon the whole staphylococcus broth, vanishing cream mixture. Antiseptics are added in high dilution so that their action is somewhat bacteriostatic, but not bactericidal.

The general routine of treatment is as follows: the infected and surrounding areas are roughly washed with soap and water and dried with a coarse towel. A small amount of the cream is applied at the site of the lesion and gently rubbed in. If the lesion is draining or tender, mere application covering the involved area with oiled silk or similar material is sufficient. This treatment is repeated twice daily. Surgical intervention is not usually necessary. The lesions remain limited and recurrences are rare. Our experience is based upon the use of polyvalent broth culture obtained from our own cases. In a single case it was necessary to introduce an auto-genous culture.

Of thirty cases that have been treated during the past six months, all but one responded rapidly and favorably. The younger infants showed systemic improvement concurrent with the local cure. Appetite, weight and the general appearance of the children became notably better.

The following are examples of cases treated:

J. H. Age 9 months, multiple deep seated furuncles of scalp, arms and back, present for seven months, weight stationary. The staphylococcus cream was applied twice daily; marked improvement on the fourth day; discharged cured on the twelfth day. Weight increased three pounds in the following six weeks.

G. B. Age 5 months, weight 7 pounds, anemia marked; impetigo pusulosa of neck and chest, duration two months. Application of staphylococcus cream twice daily—cure in four days.

D. R., physician. Recurrent furunculosis of axilla for one year. Application of staphylococcus cream twice daily. The acute swelling and inflammation subsided in 48 hours after the first application. Lesions healed in one week and no local recurrence to date. (Six weeks after commencement of treatment.)

B. B., housewife. Multiple indurated, reddened scars of old, apparently healed, acne lesions of back. Local inflammatory redness disappeared with four applications, leaving no pigmentation.

M. O., maid. Large, angry looking furuncle at angle of nose and upper lip. Duration, one week. Staphylococcus cream was applied twice daily. The lesion disappeared in two days.

SUMMARY

1. Staphylococcus cream of the type described offers a new and efficient method of application of a biologic product.

2. It apparently aborts fresh pyogenic skin lesions, hastens healing of the moderately advanced, and shortens the time of convalescence from open lesions.

3. It apparently protects the contiguous area from infection.

4. The cream is rapidly absorbed, leaves no trace of its presence, and is entirely non-irritating in our experience.

IMPORTANT FACTORS IN THE DIAGNOSIS OF FOREIGN BODIES IN THE AIR PASSAGES*

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The symptoms caused by the presence of foreign bodies in the air passages vary according to the regions in which these bodies are arrested. We shall consider, in this paper, the regions of the larynx, the trachea, and the bronchi.

FOREIGN BODIES IN THE LARYNX

In the presence of foreign bodies in the larynx, the history of the initial laryngeal spasm is of great importance. It may be absent, however. One or more of a train of symptoms may follow, their severity depending upon the degree of obstruction of the airway between the vocal cords: hoarseness, aphonia, croupy cough, wheezing, pain on swallowing, sensation of foreign body, hemoptysis, dyspnea or cyanosis.

Hoarseness, developing suddenly, is suggestive of foreign body, but it may become recurrent or chronic. Hoarseness itself has a wide range of causes: intrinsic, such as diphtheria, influenza, acute infections causing acute laryngitis, perichondritis, laryngospasm, laryngismus stridulus, early tuberculosis, carcinoma, and lues, injury from a foreign body which has passed into the bronchi or has been expelled, or injury from manipulation: extrinsic, such as hysteria, various diseases of mediastinal organs which produce pressure upon the recurrent laryngeal nerve, goiter, tabes, and numerous general diseases.

Cough, at first severe, usually subsides as the

*Read before Section on Eye, Ear, Nose and Throat, Illinois State Medical Meeting, May 21, 1930.

larynx begins to tolerate the foreign body. It may persist, however, and become croupy.

Dyspnea varies with the size of the foreign body and the degree of reaction of the laryngeal tissues. Edema in young children may be intense, especially in the subglottic tissues even with little injury or inflammation.

In making a differential diagnosis, diphtheria must be considered, especially in a child with a distinct laryngeal stridor or dyspnea. Influenzal laryngitis or acute infectious laryngotracheitis usually comes on during epidemics. Angioneurotic edema of sudden onset usually gives evidence in other parts of the body. Laryngismus stridulus occurs in children under two years of age. It comes on suddenly, usually at night.

A diagnosis depends essentially upon the history that a healthy child had something in its mouth before the sudden onset of signs of laryngeal obstruction.

FOREIGN BODIES IN THE TRACHEA

A cross section of the glottic space is about half that of the trachea. No foreign body larger than this space can pass into the trachea. It would be arrested at the entrance to the glottis and cause asphyxia and immediate death. Foreign bodies in the trachea are either movable or fixed. Some of the organic foreign bodies may absorb water and thereby swell.

Fixed foreign bodies usually are sharp, cause some cough and some pain.

Movable foreign bodies produce paroxysms of cough when moving, a flapping sound heard at the patient's mouth, a thud felt by the examiner's fingers held on the patient's trachea, and an asthmatoïd wheeze (Jackson) which is usually louder and lower pitched than the bronchial type.

Movable foreign bodies cause trauma and swelling of the tracheobronchial mucosa, and the subglottic tissue. This congestion and edema cause increased dyspnea especially in the subglottic tissues, and may require immediate relief. Especially with this narrowed glottis, there is the greatest danger of impaction of a foreign body when the patient is held with his head down and feet in the air.

A diagnosis of movable foreign body can be made on the history of the initial laryngeal spasm, if present, asthmatoïd wheeze, palpatory thud, audible slap and x-ray findings.

There may be a compression stenosis of the trachea produced by goiter, enlarged thymus, aneurysm, malignancy and enlarged mediastinal lymph glands, due to tuberculosis, Hodgkin's disease or lues, which may cause dyspnea and even cyanosis.

FOREIGN BODIES IN THE BRONCHI

The symptoms and diagnosis of foreign bodies in the bronchi depend upon several factors, namely the irritating properties of the foreign body, the length of its sojourn in the bronchus and the position and degree of bronchial obstruction.

1. The *irritating* properties of the foreign body. Vegetable foreign bodies such as kernels of corn, peanuts, pieces of apple, produce immediate reaction and symptoms. Metallic foreign bodies such as pins, nails, tacks, collar buttons, etc., do not cause immediate reaction and symptoms by themselves. If symptoms arise immediately, they are due to the bronchial obstruction caused by the foreign body.

2. The *position* of the bronchial obstruction. Obviously the obstruction of a large bronchus, just below the bifurcation, will cause severe symptoms due to acute obstruction of an entire lung. On the other hand, few symptoms may arise immediately if a small bronchus is obstructed.

3. The *degree* of bronchial obstruction. Bronchial obstruction may be divided into three types.

Type 1. The *non-obstructive type*, produced by a comparatively non-irritating foreign body such as a pin or small nail, permits passage of air during inspiration and expiration. Cough is non-productive, irritating and hacking. There is slight limitation of expansion, slight impairment of percussion, slight change in tactile and vocal fremitus, and a few snapping rales best heard posteriorly over the site of the foreign body. After weeks or months, the mucosa about the foreign body swells, air becomes trapped at expiration, cough becomes productive, usually milky and purulent, and the obstruction becomes partial or total.

Type 2. *Partial or ball-valve obstruction* of Jackson, is caused by a foreign body which partially or completely obstructs the bronchus at expiration. Physiologically the bronchi dilate during inspiration and contract during expiration. The foreign body, with the surrounding

swollen mucosa, allows air to enter the involved lung during inspiration but partially or totally prevents it from leaving during expiration. Obstructive emphysema is thereby produced. There is an expiratory lag of the diaphragm, hyperresonance, and diminished tactile and vocal fremitus on the affected side, and moist rales on the opposite side.

Cough is usually severe. Expectoration, at first watery and profuse, soon becomes thicker and purulent. Asthmatoïd wheeze may develop. If the patient is very young, the systemic reaction may become very intense.

Type 3. *Total obstruction* may be caused immediately by a large foreign body, or may occur gradually, as the result of the secondary changes which follow in the wake of a partial obstruction. Air cannot enter or leave the involved lung. Cough is prompt and may be violent. Expectoration rapidly becomes mucoid and abundant. Dyspnea may not be present at first but soon becomes evident as the secretion becomes more abundant and plugs other bronchi.

There is a limitation of expansion, impairment of percussion at the base, diminution or absence of breath and voice sounds, and rales are heard on the opposite side. As the air from the involved lung is absorbed obstructive atelectasis occurs. The mediastinal organs are gradually pulled over toward the involved side and compensatory emphysema develops on the opposite side.

Irritating foreign bodies cause the greatest local and systemic reaction. This is especially evident in small children. Secretion becomes more mucoid, tenacious, and abundant. It pours over into the other bronchi. As it increases in amount, it is coughed up with greater difficulty. Dyspnea increases as more bronchi become plugged. If not relieved by cough or other means, the patient may die. If the patient lives, one or more of the sequelae of chronic bronchial obstruction may follow.

4. *The length of sojourn* of foreign bodies. There is a great variation as to the length of time a foreign body may be present before causing extensive changes in the lung tissue. If a foreign body has been present a short time, the above mentioned types of obstruction may occur. One type may quickly pass into another. An acute or subacute total obstruction may result in

a chronic obstruction. Usually chronic obstruction is the result of an overlooked foreign body in which there has been, either a misleading history of foreign body, or no history at all.

The bronchial obstruction prevents aeration and drainage. The destruction of the bronchi and lung tissue is rapid. Drowned lung, which usually occurs at first, is rapidly followed by bronchiectasis, lung abscess, pulmonary sepsis, or fibrosis. Cough becomes chronic. The purulent character of the sputum varies with the type of secondary invader and the amount of drainage. Fever occurs either continuous or with exacerbations according to the degree of drainage of the involved lung. These exacerbations increase in frequency. Night sweats, club-fingers, emaciation, hemoptosis and leukocytosis occur. Symptoms may improve or disappear with the usual regime for pulmonary tuberculosis or in the summer months, but they recur later. The physical findings are those of the pathology present.

Fluoroscopy and X-ray. Radio-opaque foreign bodies are easily detected by the x-ray. The antero-posterior and lateral plates usually locate the foreign body in the bronchial tree. If there is any doubt, the use of the fluoroscope while the patient swallows barium or lipiodol, will demonstrate that the foreign body is not in the esophagus.

Non-radio-opaque foreign bodies are more difficult to localize. The fluoroscope may demonstrate limitation of expansion. Roentgenograms, taken at the end of inspiration and at the end of expiration, will also demonstrate variations in the degree of expansion. They will demonstrate an obstructive emphysema and an obstructive atelectasis. It is assumed that the roentgenograms are made and interpreted by an expert. Children who present obscure symptoms, should have a thorough chest examination confirmed by an x-ray study from the occiput to the ischium.

Differential diagnosis. It must always be borne in mind that there is a great variation in physical signs every time a foreign body shifts position. Variations also depend upon the quantity of air in the involved lung, the amount of secretion present and the degree of bronchial obstruction.

Food may be aspirated into the respiratory tract in typhoid fever and in paralysis of the muscles of deglutition. An overflow of secretion

into the respiratory tract may occur in an obstructed esophagus due to foreign body or a stenosis.

It is commonly known that bronchial stenosis from any cause leads to suppuration by stagnation of secretions.

Dyspnea with physical signs of bronchial obstruction for which no adequate explanation can be made, suggests foreign body. This may, however, be produced by bronchial tumor, bronchial polyp, peribronchial malignancy invading the bronchial lumen, involvement of the peribronchial lymph glands by tuberculosis, Hodgkin's disease, malignancy, etc., diphtheritic membrane in the tracheobronchial tree, external pressure by pericarditis with effusion, viscid secretion of bronchitis in certain contagious diseases and mediastinal compression by enlarged thymus.

Pulmonary tuberculosis, which is so frequently thought of first with chronic pulmonary pathology, usually begins in the apices. It is rarely found at the base where most of the lung changes occur as the result of the long sojourn of foreign body. Sputum is negative for tubercle bacilli.

Drowned lung may be mistaken for empyema.
Summary.

1. Recognition of the fact that foreign bodies may enter the bronchi and cause no immediate symptoms, is of paramount importance in the history and diagnosis of foreign body cases.

2. All children with vague chest symptoms should have foreign body ruled out.

3. Every case of lung suppuration should have foreign body excluded first.

PRESENTATION OF REPRESENTATIVE CASES

Case 1. Common pin in branch of right lower bronchus. (No. 5284.)

Child, aged 15 years, aspirated a common pin about five days before admission. A moderately hacking, non-productive cough was present. There was slight limitation of expansion and impairment of percussion and a few rales posteriorly. X-ray demonstrated a common pin in a branch of the right lower bronchus, and a moderate obstructive emphysema. At a second bronchoscopy, with the aid of a two-plane fluoroscope and roentgenograms, the pin was located. As the forceps was being withdrawn, the second bronchoscopic lamp burned out. Upon withdrawing the forceps and bronchoscope, the pin fell into the patient's mouth and was swallowed.

About one month later the pin was located in the descending colon.

Case 2. Peanut in right bronchus. (No. 5615.)

A child 8 years of age choked four days before admission, while eating peanuts. Considerable cough with watery expectoration. Expiratory asthmatoïd wheeze, slight diminution of breath sounds, slight hyperresonance and a few fine rales posteriorly near site of branching of right lower bronchus, were present. X-ray also demonstrated obstructive emphysema of right lower lobe. Removal successful with recovery.

Case 3. Piece of apple in left main bronchus. (No. 4882.)

A child 22 months of age had a sudden violent cough and laryngeal spasm while chewing on an apple. Five hours later the x-ray revealed an atelectasis. At bronchoscopy the left bronchus was filled with somewhat clear watery fluid, which was already pouring over into the right main bronchus. After aspiration of this fluid, a small piece of apple was found plugging one of the branches of the left main bronchus. The temperature was 103 degrees at the time of bronchoscopy, and dropped to normal by the end of the fourth day. Such a patient would have drowned in its own secretion within twenty-four hours. Fortunately for us all, vegetable foreign bodies do not usually pursue such a rapid course.

Case 4. Kernel of corn in right main bronchus. (No. 5459.)

A very dramatic case, illustrating the importance of trained assistants, occurred in a boy about 2 years of age. He had had a severe choking spell while playing. This quickly subsided but the next day the boy seemed sick. The doctor called and found the temperature about 102 degrees. In the course of nine days three doctors had seen the case and had given the condition various diagnoses. The last doctor thought the child had a very peculiar type of pneumonia, but obtained a rather suggestive history that the child had been playing with some kernels of corn in his mouth. On the way to the hospital with the doctor, the boy coughed suddenly, choked and quickly became cyanotic. He was bounced about, in the usual manner, but with no improvement in the condition. Finally the doctor spread his handkerchief over the patient's mouth, and forced his breath in and out of the patient's lung. Something seemed to slip, the boy began to breathe and the cyanosis quickly disappeared. A half hour later, after all preparations were made for immediate bronchoscopy, an x-ray was taken. The atelectatic lung was easily seen and the site of the foreign body determined. The instant the boy was laid back on the operating table, he stopped breathing, became cyanotic and clamped his jaws together with such terrific strength that nearly two minutes elapsed before they could be separated. Within the next thirty seconds the bronchoscopy was passed, thick masses of tenaceous, stringy exudate aspirated or pulled out with side curved forceps, and a kernel of corn removed from the right main bronchus.

A tracheotomy was done within twelve hours. Two

more life saving bronchoscopies were done during the next two days. For five days and nights, after removal of the foreign body, a night special and a day special had to aspirate, every five to fifteen minutes, the accumulating tenaceous exudate with a soft rubber catheter through the tracheotomy tube. For three more days aspiration had to be carried on every half hour or hour. By the eleventh day the patient could use his vocal cords and on the thirteenth day the tracheotomy tube was removed.

This case illustrates the fact that death may follow if the only functioning lung becomes plugged, either by the foreign body which has been dislodged from its bed, or by the tenaceous stringy mucoid secretion which increases in amount and tenacity. Here the cough reflex, forced expiration and ciliary action were inadequate. It further illustrates the value of life saving bronchoscopies.

Case 5. Thimble in right main bronchus and massive collapse of involved lung. (No. 5101.)

A large boy about 14 years of age, aspirated a child's size thimble. He choked, coughed violently for a moment and complained of a pain in the center of his right lung. The next day, after antero-posterior and lateral roentgenograms were made, a bronchoscopy was done. The thimble was so firmly impacted in the right main bronchus at the level of the middle lobe bronchus and the mucosa was already so swollen that it was impossible to grasp the edge of the thimble without great injury to the mucosa. One week later a second bronchoscopy was again unsuccessful. The thimble was drawn still deeper into the right lower bronchus. X-ray showed the mediastinal structures well over on the invaded side. Cough with purulent expectoration increased. Four days later, after devising a new method for delivery, another bronchoscopy was done. A drill 22 inches long, run by the common dental foot-power machine, revolving within a hollow supporting tube, was passed through the bronchoscope, carefully placed in the center of the thimble and a hole was drilled. Air rushed in through the hole at first and then milky pus welled up into the bronchus above the foreign body. A specially devised mosquito type forceps was inserted into the drilled hole and the thimble was grasped. It was found that only at the end of expiration, when the heart was apparently in systole and other factors right, tension upward through the bronchoscope allowed the thimble to slip slightly. After many of these slight moves the thimble was delivered. Three weeks later the patient's school principal called over the phone and asked if the boy could run in a relay race.

DISCUSSION

Dr. A. A. Hayden, Chicago: The cases that have been cited by the essayist represent the type of foreign body that should be removed from the air passages. I believe there is another type that under certain circumstances it is better not to remove. I wish to speak of two cases, the first a case in which a tonsil knife

was broken off in the tonsil fossa low down. (These are my own cases.) The x-ray showed the position of the knife very clearly. The point of the knife was missed, of course, when the instrument was returned to the table. The advice was given that that should be allowed to remain in the suture, and it has remained there for a number of years without giving any trouble. Of course a diligent search was made for it at the time, and in spite of the fact that the x-ray showed very definitely where the knife was, it was impossible to locate that knife and remove it.

The second case that I wish to write about concerns a gentleman seventy-six years old who went to a delicatessen store on a certain Sunday afternoon about sixteen months ago and bought some cake. He started to eat this cake and as he swallowed some of it he felt a very sharp pain on the right side of his neck. He had had some difficulty in swallowing before. I saw him a few weeks later and he showed, even by indirect laryngoscopy, a rather large swelling which seemed to be quite hard just above the larynx, quite well to the side. The x-ray showed a pin with the point directed away from the throat, that is, away from the esophagus. We thought it might be quite an easy matter to find this pin, as it seemed to protrude into the lumen of the pharynx or the upper esophagus, but it has never been possible to see that pin with an esophagoscope or with the long laryngoscope.

The question arose (and he was seen by some other men) whether or not this man had had at the time this cake was swallowed a malignant induration and that the pin caught in the obstruction that was formed by this swelling; in other words, whether or not the swelling preceded the entrance of the foreign body or followed the entrance of it. The man has gone along rather successfully for these number of months with one very serious upset about four weeks ago when he was swallowing a larger piece of meat than he should have and he had a recurrence of his pain. Aside from that he has been quite comfortable. The surgeons who saw the case thought it was well to let it alone, as very frequently a search of the anatomy of the neck is very difficult and these foreign bodies are extremely hard to find. I believe this man is better off with the pin in his throat than he would be with any attempt to remove it.

Dr. C. D. Sneller, Peoria: I thank the gentlemen very much for discussing this paper.

In regard to the presence of foreign bodies in any part of the bronchial tree which cannot be diagnosed by the usual methods, a little lipiodol or a little bismuth powder could be used along with the x-ray; on the other hand, no foreign body can be present very long, no matter how small, in the bronchial tree before there are some changes produced sufficient to make a diagnosis of a foreign body.

Dr. Hayden opened a very long story when he spoke about it sometimes being better to let foreign bodies alone.

THE PATHOLOGICAL CERVIX AND ITS TREATMENT*

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In this paper it is my object to emphasize the importance of recognizing and treating pathological conditions of the cervix, other than cancer.

Bloodgood has so frequently stated that "Cancer never begins as cancer." Quigley states with equal importance, "The physician who would serve his patients well in this field must recognize not only early cancer, but he must be able to determine precancerous conditions."

Inasmuch as my observations have convinced me that the incidence of cancer of the uterine cervix without pre-existing pathological lesions is almost nil, it seems then that there can be no more fruitful field of therapy than the cure of a pathological cervix. Assuming that the pathological cervix precedes the development of cancer of the cervix in almost every instance, that cancer developing in a truly normal cervix is so rare that an instance is scarcely ever observed in the professional life of physicians who are devoting much of their time to practice in this field, together with the fact that between 14,000 and 16,000 women are dying annually in the United States from cancer of the cervix, the importance of recognizing and eradicating the chronic pathologic cervix can scarcely be overestimated.

In order to discuss the importance of lesions of the cervix, it seems well to recall some anatomical and physiological considerations.

For the purpose of this paper we will consider the histological composition and vascular arrangement of the upper vagina, the cervix uteri, and the corpus uteri together.

The lining membrane of the vagina is stratified epithelium laid upon a well defined basement membrane of connective tissue. The vascular arrangement of the blood and lymph structures are such as inhibit early metastasis.

The lining membrane of the cervix is composed of a single layer of columnar epithelium, but laid directly upon the bundles of smooth muscle of the uterus and it is further weakened anatomically by having deep tubular glands

which extend well beneath the surface between the bundles of smooth muscle fibers.

With no basement membrane, the lymph and blood vascular arrangement permits damage from slight trauma and promotes metastasis of infectious, malignant or other matters.

The lining membrane of the corpus uteri, consists of a columnar layer of epithelium, a basement membrane of connective tissue, and comparatively few tubular glands. The vascular system does not afford ready channels for metastasis.

The vaginal lining may occasionally be observed to suffer a low grade inflammatory reaction, but degeneration and ulceration are exceptionally rare.

The cervical lining is very susceptible to inflammatory changes and degenerative and ulcerative changes are the rule.

The lining of the body of the uterus is seldom involved in a true inflammatory process and degenerative and ulcerative changes are not frequent.

The canal or cavity of the normal cervix is marked at both ends by a muscular sphincter, the external and the internal os. Glands pouring secretion into the canal have an alkaline reaction. Secretion passing into the cervical canal from the body of the uterus is also alkaline.

Vaginal secretions are acid. If the cervical canal receives vaginal secretion, it is obviously an irritant. The presence of acid secretion on mucous membranes which are normally only exposed to alkaline secretions, impairs their function, disarranges their structure and carries a dangerous threat of malignant degeneration.

Normally the cervical canal is protected by the sphincter at the external os, where the junction of the columnar and squamous epithelium marks the point of transition from the alkaline to acid reaction. Traumatic infections or other damage to the structure of the external os predisposes the cervix to pathological changes.

The internal os uteri is less frequently the seat of pathology. It is a more substantial anatomical structure by virtue of the submucous connective tissue layer beginning at this point and extending beneath the entire endometrium, and also because of the angulation and mobility of the uterus above this point which is held fixed quite firmly in one position, regardless of the

*Read before Session on Radiology, Illinois State Medical Society, Joliet, Illinois, May 22, 1930.

posture of the body trunk and hips, by the uterosacral ligament. The body of the uterus above this point, not being fixed subjects itself to occupy different positions and when changing the angle offers a force pumplike effect which empties its contents through the internal os in the direction of the cervical canal.

Under the extreme variation of intra-abdominal pressure and forceful modifications of body posture, a low vacuum may be established in the uterine body and if both os uteri have been damaged, the contents of the vagina may enter the endometrium.

The vaginal contents normally possess a variable flora of bacteria, nonpathogenic to the presence of normal vaginal structures.

The cervix and corpus uteri normally contain bacteria free contents.

When structure is disarranged, bacteria laden vaginal secretions may enter the cervix, or be exposed to cervical mucosa, thereby creating a condition of constant irritation and subsequent pathological degenerations.

PATHOLOGY

There are four pathological processes that may be differentiated and that come within the scope of this paper.

1. Cervicitis (inflammation).
2. Ulceration.
3. Ectropion.
4. Erosion.

Cervicitis may be divided into two forms, pericervicitis and endocervicitis. They usually exist together.

In pericervicitis the epithelium covering the cervix appears red, has an uneven surface and is edematous. The capillaries are increased and surrounded by inflammatory round cells. The basement membrane is poorly differentiated, pushed up at points appearing as papillae and leukocytes are observed in layers of the stratified epithelium.

Endocervicitis is relatively rare. It has been observed in my practice from irritation produced by wearing pessaries. It is said to be caused by congestion associated with venereal excesses and gonorrhea.

Ulceration of the cervix occurs more frequently in the cervical canal than on the vaginal portion. When an ulcer is confined to the vagi-

nal portion, the cause is usually easily detected and removing the cause affords satisfactory relief as a rule. Syphilitic and tubercular ulcers require specific management. Ulceration in the cervical canal is of much greater importance. It is frequently associated with ectropion. The layer of columnar epithelium is lifted from its base on the muscularis and breaks down. The glands become involved and carry the process deeper into the muscularis. The capillaries lack the support of a basement membrane in their proliferation and bundles of smooth muscle become infiltrated with inflammatory cells (round cells and leukocytes) and break down also. The cervical canal loses its ductlike structure and becomes a ragged irregular cavity as shown on section after hysterectomy or by trachelograms after filling the uterus with radio-opaque oils.

When the tissue changes progress slowly, the glands may become occluded at their proximal ends and the gland lumen become filled with secretion and cell detritus, with the result that gland cysts or follicles of Naboth are formed. These gland cysts are often numerous and extend deeply into the cervical tissues.

Ectropion usually occurs in multipara and signifies anatomical changes at the external os which expose the columnar epithelium of the cervix to the contents of the vagina. Subsequent inflammation or ulceration or both are inevitable.

Erosion of the cervix indicates a condition where the vaginal portion of the cervix, normally covered with stratified epithelium, is actually covered with columnar epithelium, which has extended out from the cervical canal past the external os. The single layer of columnar cells rest on the basement membrane of connective tissue and appear quite normal except they possess no cilia. It is the thin layer of epithelium, the capillary network and the irregular surface of the basement membrane which gives the deep red granular appearance of an erosion. It is when a cervix appears eroded on inspection and bleeds on very slight trauma that a careful differential diagnosis of possible malignancy must be instituted.

SYMPTOMS

Fortunately and unfortunately a pathological cervix is seldom attended with pain. If pain was an early and constant symptom, the condi-

tion would certainly be detected and relieved before chronic degenerative and neoplastic changes could occur.

It is a fact, however, that many who suffer from a pathological cervix, complain of distress and pain of a more or less indefinite character and intensity, confined to the region of the pelvis and back. This distress disappears after the cervical pathology is relieved.

The most constant and important symptom is probably a vaginal discharge. In many cases it constitutes what is termed a slight leukorrhea and its presence is given little or no consideration. In other cases, it is more profuse and irritating, requiring almost constant wearing of a perineal pad and at intervals cleansing the perineum several times daily in order to maintain ordinary sanitary conditions and freedom from painful irritation of the perineum, vulva and thighs. The vaginal discharge may show enough color to stain linen, and at times be streaked with blood. Blood stained discharge may follow strenuous physical exercise or periods of sexual excitement and coitus. Such instances denote the presence of pathology and most frequently a pathological cervix.

DIAGNOSIS

To determine the presence of a pathological cervix, there are three procedures necessary in almost every case. They are:

1. *Palpation*, preferably conducted on an examining table equipped with an x-ray fluorescent screen.

2. *Inspection* with the aid of special illuminating apparatus, and with a speculum that is adapted properly to the vaginal canal for width and depth.

3. *Trachelograms*, preferably made after observing the filling of the canal with the x-ray fluorescent screen, and securing the angle or position which will best show the filling defect for the trachelogram.

By palpation one can determine the palpable size, consistency, mobility, fixation, position, the contour and irregularities and the deformities which have little or no pathologic significance.

Inspection reveals color variations, irregularities of contour, ulcerations, lacerations, puckered scars, hyperplasias, ectropion, erosions, the tendency to bleed when irritated mechanically or probed, the character and quantity of the se-

cretion pouring into the vagina from the cervix and during inspection samples of secretion may be collected for bacteriological and other examinations.

The trachelogram, with the fluoroscopic findings, shows the size, position and contour of the cervical canal under pressure, as well as its relation to the cavum uteri, since it is scarcely possible to fill the cervix without filling the uterine body. In the differentiation of the character of a cervical lesion, it is frequently of paramount importance to know the fluoroscopic findings in conjunction with palpation of the pelvic viscera when the uterus and oviducts are filled with opaque oil, and when defects are elicited a uterogram or salpingogram along with the trachelogram are invaluable for further study and a permanent record.

TREATMENT

The treatment of pathological conditions of the cervix encountered in reviewing literature on this subject seems to present some of the greatest variations of opinion to be found in medical literature. The importance of correcting this pathology early and positively has already been mentioned. Quigley states, "we have seen many cases that have passed from the curable to the incurable while the vertebrae were being manhandled by an irregular, or the patient was being given local treatments by an uninformed practitioner of medicine."

My own experience, which covered many years of careful endeavor to derive a combined physiotherapy and medical treatment of pathological cervixes, was attended with such a low degree of real efficiency that I was driven to seek new procedures. In 1914 I had the experience of doing what seemed a radical coagulation of a badly pathologic but non-malignant cervix. The results over the succeeding years was very encouraging and while occasionally a case was handled in this manner, it was not until 1925 that the method was adopted as I am using it today.

The patient is hospitalized three or more days depending upon the extent of the work done. The anesthesia used is a moderate hypnosis (scopolamine and morphin or H. M. C. Abbott) with enough nitrous oxide gas to complete sufficient anesthesia.

Patient is given regular gynecological operating preparation and by the aid of a self retain-

ing vaginal dilator, with a weighted speculum, the cervix can be drawn into the pudendum for inspection, diagnosis and operation. The cervix is dilated sufficiently to determine the depth the cervical canal is involved. If a specimen is to be removed for biopsy, a cutting electrical current is used. All pathological tissue is now destroyed with a coagulation current. I frequently go over the coagulated areas with a desiccating current before applying freely a solution of argyrol or mercurochrome. The vagina is packed fairly tight with gauze, the first portion of which is saturated also with the solution. The packing is removed in 24 hours and each day thereafter the coagulated area is carefully cleared as well as the vagina of any discharge or necrotic material. Also each day the coagulated area is again saturated with the solution. In this manner healing of the mucosa on the cervix and in the canal progresses in a satisfactory manner. Occasionally the cervix becomes edematous for a day or two, but no case in our experience has presented any undesirable post-operative result. The squamous covering meets the columnar far enough within the cervix, so that when contraction is complete there is no ectropion.

In many cases the cervix has contained numerous gland cysts of follicles of Naboth. The entire portion involved is coagulated. Scars from laceration of the cervix are coagulated and the healing secured after coagulation appears without scar and remains entirely satisfactory. In a small number of densely fibrous cervixes a tendency to close out to a very small canal has been observed, and in those cases we have dilated them a few times in order to preserve free drainage.

SUMMARY AND CONCLUSIONS

1. The importance of a pathological cervix has been emphasized.
2. The general health is frequently greatly improved when a pathologic cervix is relieved by electrocoagulation.
3. A pathologic cervix as a focus of infection must be considered.
4. Pelvic lymphangitis with indefinite pelvic distress may indicate pathology along the cervical canal, not recognized by inspection of the cervix, and warrants further investigation of the cervical canal with x-rays.
5. Conception has occurred in several of our

cases after electrocoagulation, where sterility has existed previous to the operation.

6. Recurring perineal and vulvar irritation, as well as unsanitary vaginal conditions are eliminated when pathologic cervixes are corrected.

7. Complications connected with the period of confinement are reduced by correcting cervical pathology before conception.

8. The liability of a malignant change in the cervix after a coagulation operation seems to be very small.

9. The liability of malignant changes in unoperated pathologic cervixes seems very great.

10. The value of a periodic pelvic examination for women between 35 and 60 years of age, by physicians trained and equipped for this special work, cannot be overestimated.

DISCUSSION

Dr. E. G. C. Williams, Danville: It has been my privilege to have Dr. Orndoff's paper in my hands for several days, and I have enjoyed it thoroughly. There are some generalities that appeal to me.

There are two classes of men who enter the operating room. One is the operator and the other is the surgeon, and there is all the difference in the world. I believe that the true surgeons of the whole country are the men who have had a background of detailed and careful training in pathology. The man who does not know pathology and goes into the operating room is not a surgeon but an operator. It seems to me Dr. Orndoff proves up to his position as a surgeon. I do not know whether or not he claims to be a surgeon, but at any rate his work is surgical in these cases and his background is one of pathology.

Another point that came up was one of the parts of my creed, and that is, "many cancers are preventable." It is in the caring for these diseased conditions that many cases are being prevented. Again the same thing keeps coming up of malignant growths coming in areas where there has been constant irritation or infection, something which has disturbed the metabolism of the cells, or something which has started the uncontrollable mitosis of malignant growths.

There is very little for me to add in closing. Was pleased to hear Dr. Williams emphasize some of the points of my paper and glad to know that he concurred. May I mention also that it was not my intention to present one method as superior to another, but I do believe that undesirable postoperative scar formations and subsequent contractions can far better be avoided with electrocoagulation than by cauterizing methods, for surgery of the cervix.

TREATMENT OF PNEUMONIA

The plan presented by Oscar W. Bethea, New Orleans (*Journal A. M. A.*, Sept. 27, 1930), consists essentially of: (a) Unlimited attention to general care

without "meddlesome interference." (b) Conservation of the circulatory system by perfect rest. (c) A rather high carbohydrate, low total diet. (d) Careful, regular elimination. (e) Mild alkalization. (f) Symptomatic treatment only to meet definite indications. (g) A plea for "masterful inactivity" when a case is progressing favorably and there is nothing of value to do.

CERTAIN ASPECTS OF ECTOPIC PREGNANCY*

A. J. LENNON, M. D.,
JOLIET, ILL.

It is only about fifty years ago that Parry expressed the accepted theory of his time when he said that the accident of ectopic gestation was almost always fatal, and that there was no reliable means to combat its dangers.

Etiology: Williams found evidence of inflammatory reaction in all specimens examined, and these were bi-lateral in all cases where both tubes were removed. May occur any time during the child bearing period. The youngest patient, one who had had a child seven months previously, was seventeen years old. The oldest patient was forty-one years old. It is interesting to note that thirty-one of a series, or forty per cent. were primiparas.

Diagnosis: In early ectopic gestation the diagnosis is very difficult to make.

Type 1. A sub-acute rupture or tubal abortion with symptoms of an acute abdomen of moderate severity, without any definite findings in adnexa regions. There may be a slight elevation of temperature, pulse rate and leucocytosis, with very little change in sedimentation time. The hemoglobin and red blood count may not be affected. These cases may recover and go on to so-called spontaneous cure or may have recurrence of rupture with severe hemorrhage and death.

Type 2. A massive hemorrhage suddenly occurs, signs of shock and collapse, distension of the abdomen and at times unconsciousness are present. Shifting dullness and Cullen's sign may be present.

Type 3. This type has slow, repeated attacks of pain and internal bleeding, and gradually increasing anemia and weakness. Vaginal examination reveals a mass in adnexia region.

Symptoms: Pain of various types is described, depending on the type of case.

Pain in the bladder region with frequent micturition, vaginal and rectal discomfort, or pain radiating down the thighs is not uncommon; constipation, obstipation or diarrhea and rectal tenesmus are also noted.

Fifty-one per cent. of cases complained of vaginal bleeding, which varied from a scant intermittent show to profuse bleeding. This may lead to the mistaken diagnosis of an incomplete abortion.

Differential Diagnosis:

1. Early uterine pregnancy with an enlarged corpus luteum.
2. Rupture of a Graafian follicle with internal hemorrhage.
3. Threatened miscarriage.
4. Torsion of tube or ovary.
5. Torsion of an early pregnant uterus complicated by soft fibroids and recent omental adhesions.
6. Twisted pedicle ovarian cyst.
7. Acute or sub-acute salpingitis.
8. Hydro salpinx.
9. Acute appendicitis.
10. Ruptured peptic ulcer.
11. Renal colic.

Outstanding features in diagnosis:

1. Pain as described above. This combined with a history of a possible pregnancy, an indefinite fullness and tenderness in the pelvis.
2. A bloody show which does not appear at the regular or expected menstrual time should be suggestive. The presence of clotted particles of blood on vaginal puncture.

The advance in treatment has reduced the mortality from 85% to 5%.

Prompt operative procedure. Blood transfusion if necessary. Routine treatment of shock. If patient is in a dangerous condition only the affected tube is removed. If patient's condition warrants it, other lesions may be taken care of.

We do not irrigate the abdomen after the operation, but we do remove most of the clots of blood. After care as in a case of peritonitis. Fowler's position, plenty of fluids, morphin, etc. The Relation of Ectopic Gestation to the Associated Uterine Changes and Vaginal Bleeding.

*Read before Joint Session of Medicine & Surgery, Illinois Medical Meeting, May 25, 1930.

Geist and Matus. N. Y. A. J. of O. & G., Vol. 17, p. 151. 1929.

Summarizing the literature to date, the following facts seem to be commonly accepted:

1. That vaginal bleeding is uterine in origin, is of venous character and takes place with the death of the fetus.

2. That bleeding may continue for a considerable period of time, possibly due to the pressure of viable chorionic villi in the tube.

3. That following the death of the fetus, the decidua is expelled as a cast, or in small fragments after the lapse of a variable interval.

4. In 50% of cases a decidual cast is expelled, either as a large fragment or in disintegrated pieces.

5. That curettage gives little information because when done for prolonged bleeding, as is commonly the indication, the mucous membrane is of a resting type.

6. There is, however, evidence that in spite of bleeding during extra-uterine gravidity, the pregnancy may develop to term with a living baby.

Authors report thirty-nine cases in which laparotomy was performed, and where the character of the endometrium could be determined. The purpose of the investigation was to correlate the findings in the tube and uterus with the clinical symptoms, especially with vaginal bleeding.

Authors conclude from an analysis of their findings that the occurrence of bleeding in ectopic gestations may be attributed to a variety of causes:

1. Mechanical interference. Analogous to the number of normal pregnancies which are terminated by abortions, there are patients with ectopic pregnancies who, thinking themselves normally pregnant, cause vaginal bleeding by methods to induce abortion.

2. There are many normal intra-uterine pregnancies in which bleeding or spotting occurs, especially in the early months, and which nevertheless progress to term. Some of the bleeding of an ectopic may be of this nature.

3. We would say that spotting was evidence of tubal and uterine contraction, but not of ovular death. Real bleeding may be due to ovular death.

4. Bleeding accompanies or precedes the

casting off of the decidua, and is initiated by actual death of chorionic tissue.

(1) After rupture and death of the fetus it becomes macerated, the soft parts are absorbed and the bony parts by ulceration may enter a viscus.

(2) After absorption of most of the small parts the remainder of the fetus may be covered with peritoneum and a tumor remain.

(3) Another termination, after the death of the fetus, is mummification. Absorption of the water of the fetus takes place. Calcium salts are deposited in the sac around the fetus and the child is incased in a shell, or is partly calcified itself—a lithopedion. I am indebted to Dr. Gilbert Fitz-Patrick for the specimen which I have here. He will tell you the history.

* * *

The Decidual Reaction in Extra-uterine Pregnancy. By B. L. Kline, M. D. Cleveland, Ohio. A. J. of O. & G., 1929, Vol. 17, p. 42.

Conclusions:

1. That a decidual reaction of greater or less extent occurs constantly at the site of implantation.

2. That the decidual tissue persists as long as the chorionic villi are intact.

3. That following the termination of the pregnancy by hemorrhage with resultant degeneration of the chorionic villi, the local decidual tissue undergoes involution.

4. That a distant decidual reaction in other portions of the tube, uterus or elsewhere, is not constant, and that when it does occur, it may persist after the degeneration of the chorionic villi and the complete involution of the local decidual tissue.

5. That the relatively frequent occurrence of vaginal bleeding in extra-uterine pregnancy probably depends upon changes other than the casting off of uterine decidual tissue.

These conclusions were drawn from a study of seventy-four cases of extra-uterine pregnancy.

Follicular Salpingitis an Important Factor in the Etiology of Ectopic Gestation. By Henry C. Folk, M. D. N. Y. A. J. of O. & G., Vol. 15, p. 821.

There is no lack of theories concerning the etiology of tubal pregnancy. Problem is to de-

cide which factors, if any, cause the greatest majority of ectopic gestations.

All attempts to produce tubal pregnancy in animals have failed apparently the human organism alone suffers from ectopic gestation.

Study of tubes removed in patients with ectopic pregnancy is only method available. This study was carried out and the following conclusions drawn:

1. An inflammation of the tube or a history of an infection has been found in a very large percentage of cases of ectopic pregnancy. (Gonorrheal large percentage.)

2. The end result of a mild infection of the tube is the production of pseudoglands or a follicular salpingitis in a large portion of cases.

3. The frequency of the site of the ectopic nidus corresponds to the sites of the follicular changes.

4. Follicular salpingitis is the etiological factor in 90% to 95% of all tubal pregnancies.

* * *

Etiology of Tubal Pregnancy, by F. Kok. *Klinische Wochenschrift*, 1925, iv, 1213.

The author does not think that marked tortuous tubes and so-called tubal diverticula play as important a role as Freud and Werth had maintained. The tubes of animals, such as the cow, always are very tortuous. Tubal diverticula are much more common in hogs than in humans. Yet to date, there is reported in the literature only one case of tubal pregnancy each, in the cow and the pig.

The main factor in conveying the ovum to the uterus is the contraction of tubal musculature. These peristaltic movements have been disregarded to a great extent up to the present time. The author has been able to demonstrate such peristalsis in experimental work. It is probable that this movement is mechanically stopped on one side or the other. This is common following inflammation. Schroeder says that a peristalsis, hindered and interfered with by perisalpingitic adhesions, may not be able to transfer the ovum into the uterus. Sellheim thinks a connective tissue infiltration may detract from the capacity of tubal musculature to contract.

Cutnin comes to the conclusion that the ovum itself is active by liberating the hormones necessary to start the transport mechanism of which

the most important factor is that of peristalsis. Furthermore it seems plausible that a qualitative or quantitative variation in the hormone of the ovum, even with an intact tube, will prevent or alter the time of the normal tube contraction. Thus, the egg itself is responsible for extra-uterine implantation. An abnormal hormone function of the fertilized egg might inhibit the peristalsis an unusually long time.

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DISCUSSION

Dr. C. C. O'Byrne, Chicago: The Doctor called attention to the fact that a very large percentage of the cases were primiparae. I believe they are primiparae because of the fact that the first pregnancy does not take place in the uterine cavity and the fetus will not lodge in the uterine mucosa but may lodge in a tube. A patient of mine, a woman of 41, had been married for more than twenty years. Her first pregnancy was in the tube. She had a rupture and a very severe hemorrhage. She was a very large woman and was almost exsanguinated. I operated on her. I made my incision in the right rectus muscle because I knew the lesion was on the right side. One of the first things I brought out was the fetus within the sac; the sac had not ruptured but the tube was still bleeding. She did well for eight days when she had a similar condition. I opened the abdomen and took out an ectopic tube on the left

side. She made a complete recovery. I have on a number of occasions operated on women for ruptured tubal pregnancy on one side and a year or two later for one on the other side. I believe the pregnancy takes place in the tube because of the condition in the uterine mucosa. She had been married twenty years and never pregnant. Had she a normal uterine mucosa I believe she would have been pregnant many years before in a normal uterine cavity.

Dr. A. J. Lennon, Joliet (closing the discussion): I wish to report a case in which there was a ruptured ectopic pregnancy in both tubes, not however at the same time but about twelve or thirteen months apart.

With regard to what Dr. O'Byrne said about pregnancy taking place in the tube because an endometritis was present, we know that pregnancy takes place in the tube and descends into the uterus where it plants itself. We find in a good many* of these ectopic cases that there is an inflammatory condition of the tube and this may prevent the progress of the impregnated ovum to its right field in the uterus.

BROMIDE INTOXICATION

So many people are taking bromides on their own account, so many doctors are prescribing bromides for their nervous patients, that bromide intoxication has become comparatively frequent. Last week the American Medical Association, by publishing the investigations of Drs. Titus Holiday Harris and Abe Hauser of Galveston, indicated what happens from bromide overdosage.

The body requires a certain amount of common salt. Bromides drive out some of that necessary salt. When the displacement reaches 30 per cent, bromide intoxication develops, closely resembling several other kinds of intoxication. The victim becomes drowsy and dull. His wits wander; his memory fails. He has hallucinations, "frequently of the colored type, such as seeing a Negro man or some dark animal." The well-known bromide rash may or may not occur.

These symptoms are also those of alcoholic and other drug intoxications, inflammation of the brain, tuberculosis meningitis and several other diseases. A blow on the head may cause them.

But there is a way of distinguishing bromide poisoning. A device called the Wuth comparator indicates the amount of bromides in the blood. If the blood bromides are 30 per cent or more, the condition is one of bromide intoxication.

Treatment is to supply the patient with large quantities of salt until the body's salt equilibrium is re-established.

RESULTS OF TONSILLECTOMY

Considering all the data from a ten year follow-up study of tonsillectomized children, Albert D. Kaiser, Rochester, N. Y. (*Journal A. M. A.*, Sept. 20, 1930), concludes that: The real value of the removal of tonsils and adenoids cannot be definitely established in a few years. Apparent benefits during the first few postoperative years are not so evident over a ten year

period. Outstanding benefits are apparent in influencing the incidence of sore throats over a ten year period. Substantial benefits are apparent in rendering children less susceptible to scarlet fever and diphtheria. Acute head colds and otitis media, though definitely lessened over a three year period, are not essentially influenced over a ten year follow-up period. Cervical adenitis is decidedly reduced in tonsillectomized children over a ten year period. The respiratory infections, such as laryngitis, bronchitis and pneumonia, not only are not benefited but actually occur more frequently in tonsillectomized children. First attacks of rheumatic manifestations occur from 30 to 50 per cent less often in tonsillectomized children. The greatest reduction occurs in children tonsillectomized early. Recurrent attacks are not benefited at all. Incomplete tonsillectomies do not offer the same protection against the usually throat complaints and infections as complete removal of tonsils. The hazards of tonsillectomy must be considered in evaluating the end-results. Considering this hazard, the late results seen in 2,200 children ten years after operation are evident only in the reduction of sore throat, cervical adenitis, otitis media, scarlet fever, diphtheria and rheumatic fever and heart disease.

PELVIC IRRADIATION IN THE CHILD-BEARING WOMAN

Palmer Findley, Omaha (*Journal A. M. A.*, Sept. 20, 1930), asserts that preconception therapeutic pelvic irradiation has no known effect on the development of future offspring. Postconception therapeutic pelvic irradiation is fraught with grave danger to the growing fetus. So real is the danger as to justify the interruption of pregnancy when an unsuspected pregnancy has been exposed to prolonged and repeated irradiation. There is no evidence that diagnostic irradiation will produce ill effects in the growing ovum. An exploratory curettage should precede pelvic irradiation, first to safeguard against the possible dangers of irradiating a pregnant uterus and secondly to determine the possible presence of cancer. The younger the ovum and the greater the intensity of rays applied, the greater the injury to the fetus. Pelvic irradiation as a means of inducing therapeutic abortion is not dependable and should not be attempted. Temporary ray sterilization is a possibility but always an uncertainty. Expert radiologists and experienced gynecologists should confer before attempting such a procedure. Excessive loss of blood and intolerable menstrual pain may be suspended for a variable time and as a rule will not recur after the menstrual periods are resumed. It is best to proceed cautiously by administering a moderate dose which can be repeated later if necessary. Faultless ray technic and exact dosage are required to produce temporary sterilization without producing permanent amenorrhea and sterilization on the one hand or failure to arrest the menstrual periods on the other. The initial dosage should not exceed 300 mg. hours. In fibroids of the uterus of a child-bearing woman, surgery is preferred to irradiation.

PSITTACOSIS

The picture presented by the case of psittacosis reported by T. M. Rivers, Bernard Benjamin and G. P. Berry, New York (*Journal A. M. A.*, Aug. 23, 1930), was typical. The onset of the illness and the general appearance of the patient reminded one of a mild attack of yellow fever in which jaundice and bleeding are absent. (Some have likened it to typhoid.) Nevertheless, the important observation on physical examination is a consolidation of the lungs. The chief symptoms were severe and persistent headache, backache, and abdominal discomfort caused by distention. The tongue was covered by a peculiar heavy white coat that endured for more than two weeks. From the chart it is obvious that there was a disproportion between the pulse and the temperature. The most striking feature of the disease was the fact that, in spite of the marked involvement of the left lung, no symptoms referable to the chest occurred. There was no increase in rate of respiration, no pain on breathing, very little cough, and no expectoration except on two occasions. The results of their work in connection with the case reported at this time serve to emphasize the fact that the etiologic agent of psittacosis is neither Nocard's bacillus nor any other ordinary bacterium. Moreover, it appears that the white mouse may serve as a suitable animal for diagnostic purposes. Thus, in many instances, a laboratory diagnosis that ordinarily would be unfeasible will become possible. Finally, it has been shown that the virus of psittacosis is in the sputum of individuals with involvement of the lungs, and this fact should be borne in mind by those who care for these patients.

THE TEN COMMANDMENTS OF CANCER

1. Do not cut across a cancer and leave part behind. The part remaining will grow more rapidly than if you had left it alone.
2. An operation for cancer is an operation to save life. Cosmetic results are to be considered, but they are not to be weighed against recurrence and death a few years later.
3. Never manipulate a cancer roughly either before or during operation or more often than is necessary to make a diagnosis. To do so is the easiest way to drive cells into the lymph or blood current—hence metastasis.
4. Do not let a woman drag you into her delusion that her early cancer symptoms are due to the menopause. The menopause is a normal physiological state, and if the woman's organs are healthy she will be healthy.
5. Repair every cervix that is eroded, everted or the seat of a discharge.
6. Do not rule out cancer because the patient is not old. About 10 per cent of cancers occur before thirty-eight.
7. Do not tell your patients they have cancer if you are sure they will follow your advice at once. If they are inclined to delay, tell them frankly what they have and what will be the consequence of delay. If they make their own choice, let it be done

with full knowledge of facts and prospects. Tell the relatives or friends in any event.

8. To save your patients from cancer save them from delay. Do not wait for pain and cachexia—the signs of impending death.
9. Do not admit that incurable cancer is unrelievable cancer. Ligation, cautery, palliative removal, electrocoagulation, irradiation, and other proven physical methods may change distress to comfort and add months or years. The patient who appeals to you for relief is the one to be considered—not reputation or “the effect on the community.”
10. Be always on the watch for early suspicious symptoms. Be prompt to follow them to a definite diagnosis. Be courageous enough to insist on immediate proper treatment.

—*Weekly Roster and Medical Digest*,
June 29, 1929.

Society Proceedings

ADAMS COUNTY

The regular monthly meeting of the Adams County Medical Society was held in the Elk's Club Restaurant on October 13. This meeting was preceded by a dinner served at 7:30 in honor of the speaker of the evening, Doctor Bransford Lewis, Professor of Genito-Urinary Surgery, St. Louis University School of Medicine.

The scientific meeting was called to order at 8:20 with the President in the chair and 50 members and visitors in attendance.

Doctor Bransford Lewis of St. Louis read an interesting paper entitled “Intravenous Urography with an Evaluation of Uroselectan,” which was illustrated by a number of lantern slides. The paper was discussed by Doctors Molz, Cohen, Swanberg and Pollock, and finally closed by Doctor Lewis.

Doctor Lewis was given a rising vote of thanks for the splendid address.

The Secretary read applications for membership from Doctors E. E. Lyon of Quincy, and F. B. Parker of Ursa, Illinois. These were ordered turned over to the Board of Censors for a report.

Doctor J. C. Steiner, reporting for the Public Health Committee, stated the committee did not favor the establishing of a Clinic for the Standard Review Club. A motion carried approving the report of the Public Health Committee.

The meeting adjourned at 10:45 P. M.

HAROLD SWANBERG, M. D., Secretary.

ALEXANDER COUNTY

At the regular monthly meeting of this society, held Oct. 17 at the Halliday Hotel, Cairo, Dr. Leslie E. Wallace of Thebes, Ill., presented a very able paper on “Coronary Thrombosis.” Dr. B. S. Hutcheson, of Cairo, led the discussion on the same in a way that increased its value.

Clinical cases for discussion were presented by the members as follows:

Dr. O. M. Dickerson, of Cairo, “A Case of Transverse Presentation.”

Dr. H. J. Elkins, of Mounds, Ill., "A Case of Hemorrhage into the Vitreous from Hypertension."

Dr. Jas. S. Johnson, Cairo, "Two Eye Magnet Cases; Success in One and Failure in the Other."

Dr. B. S. Hutcheson, Cairo, "Two Cases of Fatality from Malarial Poisoning."

Dr. B. V. Rife, Mounds, Ill., "A Case of Puerperal Eclampsia Relieved by Injection of Magnesium Sulphate Solution."

Dr. P. H. McNemer, Cairo, "A Similar Case."

Dr. J. M. Gassaway, Cairo, "An Epidemic of Intestinal Flu Observed at a Resort in Michigan During the Summer."

The Secretary announced that at the next meeting, Friday, November 21, Dr. Jas. S. Johnson would be the essayist.

JAS. W. DUNN, Secretary.

COOK COUNTY

CHICAGO SOCIETY OF INDUSTRIAL MEDICINE & SURGERY

Regular Meeting Wednesday, October 1, 1930

1. Lesions of Abdominal Viscera Encountered by the Industrial SurgeonJ. A. Wolfer
Discussion—LeRoy P. Kuhn and E. C. Holmblad.
2. Motion Picture Film "Traumatic Surgery of the Extremities."

JOINT MEETING CHICAGO MEDICAL & CHICAGO UROLOGICAL SOCIETIES

Wednesday, October 22, 1930

The second William T. Belfield lecture of the Chicago Urological Society. "The Preventable Infections Incident to Preparing a Prostatic for Operation."—Edward L. Keyes of New York.

Discussion—Robert H. Herbst, Edward W. White and Gustav Kolischer.

JOINT MEETING OF THE CHICAGO COUNCIL OF MEDICAL WOMEN AND THE CHICAGO MEDICAL SOCIETY

Wednesday, October 29, 1930

Auditorium, Medical and Dental Arts Building
185 North Wabash Avenue

Eclampsia:

- (a) Movie Reel (Loaned by Chicago Lying-In Hospital).
- (b) Preliminary Report of Research on Colostrum in the Eclamptic.....Bertha Van Hoosen
Discussion—A. F. Lash.

Multiple Small Peritoneal Cysts of the Fallopian Tubes:
(With slides.)

Mabel E. Gardner, Cincinnati, Ohio. (By request.)
Discussion—Fred L. Adair and Pearl M. Stetler.

Chronic Cervicitis (Office Treatment.)

Susan R. Offutt, Mayo Clinic. (By request.)
Discussion—Eloise Parsons.

Marriages

RALPH B. GREEN, Chicago, to Miss Rose Brenner, May 21.

EDWIN PRATT JORDAN, Homewood, Ill., to Miss Marjorie Crighton of Brandon, Vt., September 18.

LAURENCE M. MOORE, Benton, Ill., to Miss Hazelle Dean Boland in Topeka, Kans., August 16.

GEORGE L. PERUSSE, JR., Chicago, to Miss Henrietta Bird of Wilmette, Ill., September 30.

WILLIAM E. RANGE, Collinsville, Ill., to Miss Grace Hallworth, September 14.

WILLIAM H. SCHOWENGERDT, Champaign, Ill., to Miss Minnie Berg of Bisbee, N. D., August 26.

PERSONALS

Dr. G. de Takats addressed the Buffalo Academy of Medicine, October 1, on "The Causes of Failure in the Treatment of Varicose Veins."

Dr. Ida C. Mann, London, England, addressed the Chicago Ophthalmological Society, October 13 on "Embryology of the Eye."

Dr. Isador S. Trostler, Chicago, addressed the McLean County Medical Society at Bloomington, October 14, on "Roentgenotherapy of Conditions Other Than Cancer."

Dr. Harry M. Hedge, Chicago, addressed the Rock Island County Medical Society, October 14, on "Modern Conceptions and Treatment of Syphilis."

The Madison County Medical Society was addressed at Granite City, October 3, by Drs. Leslie D. Darner on gas poisoning, and Quitman U. Newell, St. Louis, cancer of the uterus.

Dr. Irving S. Cutter, dean, Northwestern University Medical School, addressed the Rock Island and Moline physicians' clubs in Rock Island, September 16, on "Relation of Cultural Medicine to Medical Practice."

Dr. Robert J. Crossen, St. Louis, talked on "New Aspects of Uterine Bleeding" before the St. Clair County Medical Society, East St. Louis, October 2.

The Chicago Council of Medical Women was addressed, October 3, by Drs. Esther S. Nelson on "Vitamin D," and Mabel M. Matthies, "Vaginal Flagellosis."

Dr. Archibald V. Hill, Foulerton research pro-

fessor of the Royal Society, London, England, lectured on "The State of Water in Tissues" at Northwestern University Medical School, October 20.

A joint meeting of the Institute of Medicine of Chicago and the Society of Internal Medicine of Chicago was addressed, October 27, by Prof. Otfried Foerster, Breslau, Germany, on "Anatomic, Physiologic and Clinical Observations Concerning Chordotomy."

The second William T. Belfield Lecture was given before a joint meeting of the Chicago Medical and Urological societies, October 22, by Dr. Edward L. Keyes, New York, on "Preventable Infections Incident to Preparing a Prostatic for Operation."

The McDonough County Medical Society was addressed, October 14, by Drs. James G. Carr, Jr., and William C. Danforth, Northwestern University Medical School, Chicago, on "Management of Pregnancy Complicated by Heart Disease."

The Chicago Society of Industrial Medicine and Surgery was addressed, October 1, by Dr. John A. Wolfer on "Lesions of Abdominal Viscera Encountered by the Industrial Surgeon." A motion picture film on traumatic surgery of the extremities was shown.

Dr. Joseph A. Capps delivered the presidential address before the Chicago Pathological Society, October 13, on "Pathogenesis of Cardiac Pain"; Dr. Harry Gideon Wells spoke on "Addison's Disease with Selective Destruction of the Suprarenal Cortex"; Dr. Phillip F. Shapiro, "Pathogenesis of Glomerulo- and Arterio-Necrosis in Malignant Nephrosclerosis," and William M. McGrath and Dr. Carl W. Apfelbach, "Spontaneous Bilateral Decapsulation of the Kidneys."

Dr. Charles E. Humiston, Professor of Surgery, University of Illinois, Chicago, addressed the Knox County Medical Society of Knoxville, Tennessee. The title of his address was "Medical Parasites." Physicians from all over east Tennessee attended the meeting.

Remick as director of the division of tuberculosis of the Massachusetts state department of public health. Dr. Remick resigned to become superintendent of the Middlesex County Tuberculosis Sanatorium, which is in process of construction at Lexington.

—At the annual meeting of the Tri-County Medical Society (Warren, Knox, Henry), October 13, at Galesburg, the speakers were Drs. Alexander A. Goldsmith, "Chronic Colitis"; Rollo K. Packard, "Surgical Mortality and Morbidity"; Edward L. Cornell gave an illustrated talk on obstetrics.

—The twenty-second anniversary of the celebration of the founding of Northwestern University Medical School was observed on McKinlock Campus, September 30. The principal speaker was Dr. Isaac A. Abt, who reviewed medical history of recent years as related to medical education in America.

—The second annual Arthur Dean Bevan lecture of the Chicago Surgical Society was delivered before a joint meeting of the Institute of Medicine of Chicago, Chicago Society of Internal Medicine and the Chicago Society of Medical History and the Chicago surgical, neurologic and pediatric societies, October 3, by Dr. Harvey Cushing, Boston, on "The Cerebellar Astrocytomas."

—The Medical History Club of the College of Medicine of the University of Illinois opened its fourth season of public lectures, October 15. Dr. William F. Petersen spoke on "Count Struensee"; these lectures are held in the library of the college of medicine on the first and third Wednesdays of each month at 1 p. m.

—Two oxygen rooms for the treatment of patients with pneumonia were recently opened at the Michael Reese Hospital. The rooms constructed at a cost of \$10,000, are made of regular building materials instead of special materials used in some other oxygen rooms. The room can be charged with the maximum of oxygen needed in from three to five minutes. One door is large enough so that the patient can be rolled into the room on a bed. The door then is closed and a small door which leads into an airlock is used for the entrance and exit of nurses and physicians.

—The hourly nursing service of Chicago, sponsored by the Joint Committee on Hourly Nurs-

News Notes

—Dr. Alton S. Pope, formerly chief of the bureau of communicable diseases, Chicago Department of Health, has succeeded Dr. Sumner H.

ing, has received from the Julius Rosenwald Foundation financial assistance that will cover all of the promotional expenses and one-half of the operating expenses of this organization. This service was initiated by the joint committee representing the Central Council for Nursing Education and the First District Illinois State Association of Graduate Nurses in order to bring the best nursing service within the reach of people of moderate means and to furnish nursing by appointment where full-time nursing service is not needed.

—Arrangements have been made by the Illinois State School for the Deaf, Jacksonville, to provide an experienced staff with audiometer equipment to make free hearing tests of school children wherever desired. The purpose of the service offered is to locate children having hearing defects with a view to promoting treatment when advisable and on recommending suitable modification of teaching facilities when it is necessary. In Illinois more than 200,000 children of school age have defective hearing. Requests for the service should be filed with the state department of public health at Springfield or with the school management at Jacksonville.

—The conference of Illinois Health Officers and the Illinois Municipal League, held October 16-17, at Springfield, was addressed by Drs. Allan J. McLaughlin, U. S. Public Health Service, on "Trends in Public Health Service"; Joseph W. Mountin, director, rural health service, Tennessee State Health Department, "The Legitimate Field of the Health Officer"; Don M. Griswold, deputy health commissioner of Michigan, "Diphtheria Control Outlook"; Gilbert Fitzpatrick, "Cancer and the Public Health"; Clarence W. Hopkins, Chicago, "The Experience of a Railroad with Preventive Medicine," and Siegfried Maurer, Chicago, "Program for Saving the Infant Under One Week Old"; Dr. William F. King, state health commissioner of Indiana, on "Economics of Public Health Work."

—The fifth annual all-day clinical meeting of the Adams County Medical Society will be held at Quincy, November 17. Dr. George W. Crile, Cleveland, will speak on "Clinical Analysis of 21,135 Operations on the Thyroid Gland with Special Relation to End-Results"; "The Nature and Treatment of Peptic Ulcer," and "Management of Patients Seriously Sick"; Dr. Russell

L. Haden, Cleveland Heights, Ohio, "Types and Treatment of Rheumatism"; "Differentiation and Treatment of the Anemias" and "Dental Infection and Systemic Diseases," and Dr. William V. Mullin, Cleveland, "Management of Chronic Diseases of Nasal Sinuses in Relation to Their Effects on Systemic Disease," "Bronchial Asthma" and "The Salivary Glands." Physicians are urged to attend; there is no registration fee.

—Gov. Louis L. Emmerson and President Woodburn Chase of the University of Illinois yesterday headed a group of public officials at the dedication of a group of four Chicago buildings. The structures were erected by the state department of public welfare.

The officials also took part in the laying of the corner stone for a fifth building, one belonging to the state university.

All the buildings are part of the state group occupying the old Cubs' baseball park, south of the Cook county hospital. The new units were built at a cost of \$1,046,000. The new medical classroom and laboratories building will cost, when completed, \$1,500,000. The buildings dedicated yesterday are the State Orthopedic institute, the Institute for Juvenile Research, the Nurses' home, and the Research and Educational Hospital Service building.

The Chicago Gynecological Society held its annual meeting on Friday, October 17, 1930. The speakers of the evening were Dr. N. Sproat Heaney, and Dr. Charles B. Reed.

The following officers were elected for the ensuing year:

Dr. Henry Schmitz, President.
Dr. D. A. Horner, First Vice-President.
Dr. A. E. Kanter, Second Vice-President.
Dr. Geo. de Tarnowsky, Treasurer.
Dr. Julius E. Lackner, Secretary.
Dr. Harold O. Jones, Pathologist.
Dr. Carey Culbertson, Editor.

Deaths

CLAUDE A. AVERY, Bethalto, Ill.; Barnes Medical College, St. Louis, 1903; member of the Illinois State Medical Society; aged 52; died, September 20, of heart disease.

JOHN PAUL BENSON, Joliet, Ill.; Rush Medical College, Chicago, 1902; member of the Illinois State Med-

ical Society; served during the World War; on the staffs of the Silver Cross Hospital and St. Joseph's Hospital; aged 53; died suddenly, September 12, of cerebral hemorrhage.

DANIEL W. BOTTORF, Astoria, Ill.; Missouri Medical College, St. Louis, 1899; also a dentist; aged 71; died, September 13, of heart disease.

THOMAS W. BURROWS, Chicago and Ottawa, Ill.; Rush Medical College, 1887; a former president of the Ottawa Medical Society, the La Salle County Medical Society, the North Central Illinois Medical Society, and of the Illinois Manufacturers Association; founder of the Ottawa Bank and Trust Company, of the Burrows hospital in Chicago and of the Central Life Insurance Company of which he was chief medical examiner; member of various Masonic orders; eminent physician and surgeon; aged 68; died, September 27, while touring Europe at Utrecht, Holland, of heart disease.

CHARLES E. CHAPIN, Bloomington, Ill.; Rush Medical College, Chicago, 1891; a Fellow A. M. A.; past president of the McLean County Medical Society; medical director of the Brokaw Hospital; aged 64; died, September 26, of cerebral hemorrhage.

WILLIAM O. CHEESEMAN, Chicago; Hahnemann Medical College and Hospital, Chicago, 1884; aged 79; died, September 5, in Winnetka, Ill., of senility.

JOHN S. CUMMINS, Rosiclare, Ill.; Medical College of Evansville, Ind., 1883; aged 81; died, in September at Metropole, of arteriosclerosis.

JAMES R. DAVEY, Chicago; Chicago Medical College, 1887; member of the Illinois State Medical Society; for many years on the staff of the Illinois Charitable Eye and Ear Infirmary; aged 71; died, September 16, of angina pectoris.

RALPH PARKER DOWD, Fisher, Ill.; Medical College of Ohio, Cincinnati, 1893; aged 64; died, September 29, of cerebral hemorrhage.

HARRIET E. GARRISON, Dixon, Ill.; Northwestern University Woman's Medical School, 1876; aged 82; died, October 3.

EDGAR JESSE GEORGE, Chicago; Chicago Homeopathic Medical College, 1890; General Medical College, Chicago, 1905; aged 67; died at Chicago Memorial Hospital, October 21, of coronary thrombosis and myocardial infarction.

ROBERT R. HILLER, Thebes, Ill.; St. Louis College of Physicians and Surgeons, 1893; aged 69; died, October 3.

JUNIUS CLARKSON HOAG, Chicago; Northwestern University Medical School, 1882; a former president of Chicago Medical Society and Chicago Gynecological Society, and member of the British Gynecological Society and obstetrician at St. Luke's hospital; aged 72; died, October 10, of carcinoma of the colon.

RALPH RANDOLPH HOLMES, Chicago; College of Physicians and Surgeons, Chicago, 1906; a Fellow,

A. M. A.; formerly senior instructor in medicine at his alma mater; on the staff of the Englewood Hospital; aged 56; died, September 26, of chronic myocarditis.

ROBERT MONTGOMERY HOUCK, Vandalia, Ill.; Rush Medical College, Chicago, 1882; aged 72; died, August 28, in a hospital at Dowagiac, of diabetes mellitus.

WILLIAM THOMAS JOHNSTON, Chicago; Chicago Medical School, 1926; a Fellow, A. M. A.; aged 44; died, September 22, of chronic myocarditis and terminal pulmonary edema.

ROBERT MALONE KING, Wyoming, Ill.; Louisville (Ky.) Medical College, 1898; member of the Illinois State Medical Society; aged 66; died, September 22, of heart disease.

PETER J. KOERPER, Wilmette, Ill.; Rush Medical College, 1903; a Spanish-American war veteran of the hospital division of the Navy; aged 52; died, September 14, of cirrhosis of the liver and chronic nephritis.

EDWARD FRANKLIN LEONARD, Chicago, Harvey Medical College, Chicago, 1902; University of Illinois College of Medicine, 1903; assistant professor of neurology at University of Illinois, consulting neurologist at the Convent of the Good Shepherd, a Fellow, A. M. A.; member Chicago Neurological Society and American Congress of Internal Medicine; aged 58; died, October 31, of mitral insufficiency.

GEORGE F. MEAD, Pinckneyville, Ill. St. Louis College of Physicians and Surgeons, 1892; aged 66; died, October 2, of myocarditis.

HENRY C. MITCHELL, Carbondale, Ill.; Chicago Medical College, 1879; member and past president of the Illinois State Medical Society; member of the American College of Surgeons; aged 74; died, October 2, in a hospital at Jacksonville, of arteriosclerosis.

GLENN RAYMOND RAY, Decatur, Ill.; University of Illinois College of Medicine, Chicago, 1929; aged 27; was killed, September 15, in an automobile accident.

THOMAS HARRISON STETLER, Pawpaw, Ill.; Chicago Medical College, 1876; aged 83; died, September 27, of uremic poisoning following chronic nephritis.

KAREL STULIK, Chicago; Rush Medical College, 1894; aged 70; died, October 6, of carcinoma of the prostate and pulmonary embolism.

DAVID HENRY TAYLOR, Chicago; Miami Medical College, Cincinnati, 1878; aged 82; died, September 25, of pernicious anemia and chronic myocarditis.

LEON HERBERT TOMBAUGH, Waukegan, Ill.; Medical Department of Western Reserve University, Cleveland, 1877; a Fellow, A. M. A.; aged 78; died, August 3, of myocarditis.

JANE CROMBIE TRULL, Elgin, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1905; member of the Illinois State Medical Society; aged 58; died, September 6, of heart disease.

WILLIAM J. WEBB, Danville, Ill.; Columbus (Ohio) Medical College, 1884; aged 71; was found dead in bed, September 24, of heart disease.

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Send original articles, advertising copy, cuts and all communications relating to advertising to Dr. Charles J. Whalen, c/o Illinois Medical Journal, 185 N. Wabash Ave., Chicago.

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Editorials

GILBERT K. CHESTERTON DISCUSSES STATE MEDICINE—ENGLISH SATIR- IST AND POLITICAL ECONOMIST REMARKS PANEL SYSTEM IS FATAL

In an exclusive interview with a representative of the ILLINOIS MEDICAL JOURNAL Mr. Chesterton comments upon banality of the English panel system.

Gilbert K. Chesterton, famous smile, dangling eyeglass ribbon and Bond street tailoring, was waiting in the lounge of the Seneca Hotel, Chicago, for an especial representative of the ILLINOIS MEDICAL JOURNAL.

The famous philosopher, economist and satirist stands well over six feet in height, weighs quite in proportion and has a pair of big blue eyes that can be bland as a child's or fierce as Viking warrior's.

"Ah, yes," Mr. Chesterton commented as he lighted a fresh cigar, "you were speaking of the panel system and of state medicine?"

"The panel system is fatal. It is a fatal system. By it the country is divided into classes of masters and slaves. It is further a direct attack against the liberty of the poor, and though it is an attack in a conservative garb it is none the less a menace.

"The panel system of medical practice or its allied systems is merely the delegation of the practice of medicine to a group of people in buttons. I am against people in buttons interfering with the rights of any man. The theory of the rational modern state is against bureaucracy. The dole is a tragic thing. So is any measure that metes out a perpetual interference with individual rights, and the free contacts of a citizenry. Which is exactly what the panel system of medicine does. It removes from a class of people the right to make free contacts for individual necessities.

"It is an evil thing when you class and codify and put into a system of law a recognition of employers and employes as variant classes to be so shown under any constitution. *It is an evil thing to deprive the poor of the privilege of choice and to make of the people a sort of serfdom.*"

"The world," remarked Mr. Chesterton, "is in danger right now of getting up in an intellectual tree through the utterance of far too many platitudes. And don't forget that in England there is a most entirely different meaning taken from the word "Socialist" than that which maintains here. With us over there a socialist is apt to mean a vaguely humane person. Here in America it inclines more towards the violent "red."

"Prohibition," continued Mr. Chesterton, "is an onslaught against private morality and as such is a menace to good government. But the world is not on its way to destruction. Already the pendulum has begun to swing back. The pornographers even are getting tired. In art and literature they have almost exhausted the possibilities of the exploitation of sex. Amusing reform movements are the paradoxical but natural companions of an eager plunge into so-called secret, evil things. But it is interesting to note the other side of the question. There is a search and a seeking for religion manifesting itself all over the world. Even the British newspapers find nothing of more interest to print in their columns than stories of religion and of religious experiences. The world is a right world but like all that is of mortal concomitance is destined to trial, struggle and tribulation."

Which, of course, means that "persons in buttons" cannot have been without their uses if only to awaken the medical profession to the necessity for remembrance that

"Eternal vigilance is the price of liberty."

WE ARE EDUCATING SPECIALISTS,
AND NOT DOCTORS. THE PUBLIC
NEEDS MANY DOCTORS AND
ONLY A FEW SPECIALISTS

The trend of modern medical education has left its mark upon the younger generation of doctors, in that these younger men forget that the routine of life lies in small things. More than seventy-five per cent. of human ailments

are to be classed accurately as temporary trivialities. Now these younger doctors, for the most part, have ambitious eyes fixed upon the great moments of medicine with almost complete disregard of the everlasting minorities. Intent upon hopes of the critical laparotomy, or other serious surgical operation, idealistic young physicians are prone to neglect the every day need of the ailing public. And right here is the loophole through which the bogus practitioner creeps to find the foothold by which he sometimes dislodges and supersedes the skilled man. We are educating specialists, and not doctors. The public needs many doctors and only a few specialists.

Out of the inattention of scientific men for ordinary wants of an indisposed people, spring and flourish the mass of cults and of mock medical systems that insidiously deprives the sick of the available expert medical attention. In other words, it is the seeming indifference of physicians towards the annoying ailments of prevalence and frequency that forces the people to seek care and a sympathetic ear from the pseudists.

Powerful appeal of the false healers is the seeming shrewd fashion in which these dispensers of bunk appear to take the patients into the full confidence of their supposedly wonderful systems. The subtlety of this suggestion to personal vanity is incalculable.

MEDICINE IS THE MOST DESTRUCTIVE OF PROFESSIONS. WORKING ON ITS ELEMENTAL DOCTRINE OF PROPHYLAXIS IT LABORS TO ITS UNDOING

The general public is hungry for news of the functions of the ever troublesome body and the simple way in which it may be cared for. Proof of this is found in the tremendous amount of "medical answers" carried in every daily periodical in the country. Medicine is the most destructive of professions. Working on its elemental doctrine of prophylaxis it labors to its undoing, but there is much yet to be done before the race will have reached the millennium of physical perfection. MUCH MUST BE DONE at once to restrict the outrages perpetrated by the pseudo-medical-incompetents, or centuries of medical research and professional devotion will go for naught.

The doctor as an individual is caught between two fires. In addition to the work of the bunco-medics, the increasing knowledge of specifics for standardized diseases has brought into play a vast possibility for self-medication, that an egotistic public has availed itself of with much avidity. The fine point of diagnosis is too often overlooked. One of the crimes against it is the maudlin cry of the chiropractic that any ailment under the sun can be diagnosed from a wiggle of the spine. If the claim were for any ailment under the sod, there would be no argument, but not until the death rate shows an alarming increase will the public awake, and that too late.

Hampered by laws that make it impossible for a physician to prescribe certain drugs when and how he wishes, but only as a few non-medical lawmakers think he should, the doctor is still doing his best. Would the Harrison Narcotic law, the inhibitions of Volstead Act and a dozen other insanities be on the statute books of the country today if the public and the physicians, too, had been aware of what was meant? Every doctor in the United States has had ample opportunity to feel the whip of fiat-medical practice.

Dr. George E. Vincent, an able educator, has said "In democratic countries like the United States, Great Britain, and Canada and Switzerland, the popular estimate of the social value of science, the general esteem in which scientific men are held, the willingness of legislative bodies and of private citizens to supply funds, and the readiness of leaders and people to accept and apply the results of scientific research are determining factors in the progress of knowledge. Unless the leaders of opinion and a substantial proportion of the adult population appreciate the aims and methods of science, understand something of the value of evidence, are familiar with reasoning processes, and are prepared to recognize the authority of disinterested experts, science can not attain the place it deserves, or render the service of which it is capable. Chemical, electrical and mechanical engineers have won distinction and recognition because their work is tangible and convincing both to the trained leader and to the man in the street. The medical scientist, with vastly more complex problems to solve, must ask for the sup-

port of a much more intelligent imagination and sympathetic form of public opinion."

It is the creation and support of such a public opinion that is the aim of the lay educational campaign of the Illinois State Medical Society.

DR. IRVING S. CUTTER IN A REVIEW OF HIGHER MEDICAL EDUCATION IN AMERICA

In an exceptionally well edited book on "Higher Education in America," compiled by Raymond Kent, the chapter on "The School of Medicine" by Irving S. Cutter, dean of the medical school of Northwestern University, is an able epitome of conditions effecting and affecting medical education today.

Dr. Cutter approaches the subject from the sanest sort of a viewpoint and yet with a clarity of vision and breadth of perspective that makes of the chapter easy reading for the lay mind and a confirmative survey of what many of Dr. Cutter's brothers-in-medicine are discussing everywhere with the greatest of interest.

Medical education is becoming one of the leading economic questions of the day. As Dr. Cutter states in his opening sentence, "Medical education in the United States today cannot be fully understood apart from certain phases of its development historically. The present plane was reached only after long and continued effort. In this development a very significant determiner has been the American Medical Association.

"The convention which organized this association met in Philadelphia May 5, 1847. As a basic principle of organization it adopted the policy of representation, making the voting members of the association a body of delegates from medical societies and institutions in a definite numerical ratio.

"From the beginning this organization concerned itself with the great issues of medical education. But worthy as were its efforts, medical schools continued to multiply for many years and low standards prevailed generally."

Dr. Cutter traces concisely the gradual growth of the improvement of medical requirements—i. e., of requirements of a man himself and of his mental equipment as pre-medical students and of lengthened and increased curriculum up until the present time when the high cost of medical education in both time and cash is be-

coming as great an economic problem as any other confronting the profession.

The extremely prominent part that the state of Illinois has always played in advancement of medical standards is everywhere manifest in Dr. Cutter's article. How many know that at Springfield in 1881 in the fourth annual report of the Board of Health of Illinois was published the first survey of medical colleges and medical education in America?

According to Dr. Cutter in 1800 there were four active medical schools that in sixty years had increased to 66, and in the next thirty years to 160.

"In the absence of active federal control over medical education and in the absence of a federal medical-practice act, each state was privileged to fix requirements governing education and licensing," he writes.

Valuable, comparative, tables with enlightening statistics illuminate the conditions involved and the information set forth in an excellent manner. There is practically no point of medical practice or affiliated labor that Dr. Cutter has not considered in his article. Within its sixty-five pages there is not an unnecessary word, and scarcely a wanted fact.

To be sure, Dr. Cutter remarks:

"The graduate in medicine must always remain a student. For him, graduation is in reality a commencement. Each year, even each month of his subsequent career, will bring advances and new discoveries in medical science; discoveries to which he may possibly contribute, advances of which he must at least have accurate knowledge. There is so much for the student to learn today as compared with the field covered by medicine a generation ago, that to cover it thoroughly is recognized as an impossible task.

"Medical education seeks, not the amassing of facts, or the development of the encyclopedic type of mind, but rather the discovery and development of the inquiring type of intellect, ready to approach a new problem from the standpoint of basic principles."

The article as a whole is a brief but comprehensive survey of medical achievement and scholastic aspiration.

Throughout the entire chapter wherein Dr. Cutter systematically marshals the facts in the history and progress of medical science and

practice, he ever keeps before the mind of the reader the idealism of medicine and the idealism of the practitioner. Constantly he strives to keep these pictures in view and to emphasize their universal significance for society and the individual.

In the present age of commercial standards no presentation could have a greater importance nor more adequately call attention to a real necessity without minimizing in any degree the abundant informative material which is massed in this volume. One can honestly say that Dr. Cutter's exposition is an invaluable contribution for the medical educator and practitioner.

The book "Higher Education in America" is published by Ginn & Company of Boston-New York-Chicago.

IF YOU ADVERTISE YOU WILL DOUBLE
THE EFFORTS OF THE QUACKS AND
THEY CAN MAKE MORE NOISE THAN
YOU CAN, AND UNFORTUNATELY
THE GENERAL PUBLIC IS NOT ABLE
TO DISCRIMINATE.

Dr. Olin West, secretary of the American Medical Association, in an extemporaneous address before the Secretaries' Conference of the Illinois State Medical Society, May, 1930, on economic and other subjects cited his personal impressions based on a large practical and personal experience.

The following excerpt on medical advertising is quite apropos because of the present acute agitation along this line by newspaper owners and some physicians. We quote:

"I am opposed to any kind of scheme yet invented to advertise medicine, I do not care whether it is to advertise the individual or the group. *We do not need advertising.* You cannot advertise except at your own expense. I do not mean financial expense, I mean at the expense of your status as a physician. I have been watching these schemes for a good many years and have watched the societies spend money on them, and I have watched them drop them one after another, and *they invariably say the scheme did more harm than good.* One of the biggest societies in the United States was split wide open by an advertising scheme, and half of the members were set against the other half, and the respect of the community for the medical profession in that state was tremendously reduced.

Patient Types . . .

The Rheumatic

Regular and adequate bowel elimination constitutes an essential part of treatment in the majority of patients suffering from the arthritic or gouty diathesis.

The comfortable action of Petrolagar is to be preferred to drastic physic. Petrolagar is pleasing to take and mechanically restores peristalsis without causing irritation and does not upset digestion.

Petrolagar, a palatable emulsion of 65% (by volume) pure mineral oil emulsified with agar-agar, has many advantages over plain mineral oil. It mixes easily with bowel content, supplying unabsorbable moisture with less tendency to leakage. It does not interfere with digestion.

Petrolagar



Petrolagar Laboratories, Inc.,
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Illinois Medical Journal

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I do not see any reason why medical societies should pay newspapers to give the public the facts. The biggest responsibility—on the press of this country, whether it be newspaper or magazine or medical journal, is to give the public the truth. They cannot get the truth except from medicine itself. The press ought to assume its own responsibility, its own duty, without taking money out of the pockets of medical men. I have communicated with a number of officers of societies that tried it, and the public believed that it was a selfish proposition, and in that fact lies the explanation for a certain loss of confidence on the part of the public in the medical profession. The fundamental principle involved is the fact that the man with the most money who can make the most noise and has the least regard for truth, is the one who always wins. If you advertise you will double the efforts of the quacks and frauds, and they can make more noise than you can, and unfortunately the general public is not able to discriminate."

BACK NUMBERS OF THE JOURNAL WANTED:

The Bureau of Science Library, Department of Agriculture and Natural Resources, Manila, Philippine Islands, desires back numbers of the ILLINOIS MEDICAL JOURNAL as follows: Vol. 29—February and March 1916; Vol. 30—August and December 1916. Also:

The Northwestern University Medical School, Chicago, desires volumes of transactions of the Illinois State Medical Society as follows: First to twenty-second volumes, covering the years 1850-1872, both inclusive.

Kindly forward back numbers to ILLINOIS MEDICAL JOURNAL, 185 N. Wabash Avenue, Chicago, Illinois, or notify the JOURNAL office and postage will be forwarded promptly.

ANNOUNCING THE FORTHCOMING "AMERICAN JOURNAL OF CLINICAL PATHOLOGY"

Doctor T. B. Magath of the Mayo Clinic has accepted appointment as editor-in-chief of the new official journal of the American Society of Clinical Pathologists to be known as the American Journal of Clinical Pathology, of which the first number will be issued in January, 1931.

The new journal will emphasize new methods in laboratory work, the material being primarily

of a practical and clinical nature. It is designed to be useful and serviceable to the technician as well as to the pathologist. For the present the journal will be published bimonthly.

THE CHICAGO SOCIETY OF ALLERGY ORGANIZED

The Chicago Society of Allergy which has been meeting informally was formally organized Nov. 12, 1930.

The following officers were elected: Pres., H. L. Huber; Sec'y-Treas., L. Unger. Executive committee: Wm. L. Beecher, S. M. Feinberg, F. L. Foran, M. Lichtenstein, I. Pilot, S. T. Taub, and the officers.

Meetings will be held the third Monday night of each month and scientific programs will be presented. All interested are invited.

Leon Unger, Secretary,
185 N. Wabash Ave.

EYE, EAR, NOSE and THROAT SECTION

The program for the Eye, Ear, Nose and Throat Section of the Illinois State Medical Society Meeting to be held May 5 and 6, 1930, at East St. Louis is now being made up.

Any member of the Section desiring a place on the program is requested to communicate with the undersigned giving the title and a synopsis of the paper. As the number of places is limited it is suggested that prompt action is desirable.

W. C. Williams, M.D.,
Jefferson Building, Peoria, Illinois.

A CORRECTION

A FALSE REPORT has been circulated to the effect that PHENO-COSAN has been withdrawn from the market. Such rumor is false, malicious and without foundation. The manufacture of PHENO-COSAN has never been interrupted; it is carried in stock by reputable druggists and wholesale drug distributors everywhere.

DOCTORS WISHING TO PRESENT PAPERS BEFORE THE MEDICAL SECTION OF THE ILLINOIS STATE MEDICAL SOCIETY

"Those wishing to present papers before the Medical Section of the Illinois State Medical

Society of the next meeting May, 1931, will please notify the officers of this Section at the earliest possible date."

LOWELL D. SNORF, M. D.,
Chairman.

25 E. Washington St., Chicago.

PEOPLE MAY BE STANDARDIZED
WHEN WELL, THEY ARE ALL INDI-
VIDUALISTS WHEN ILL. A MA-
CHINE CANNOT ATTEND
THEM

Considering the tremendous amount of work required to establish every shred of information about illness and disease and make it conform to the major pattern of modern medicine, the medical men of the past must have been marvelously endowed. The future should be measured by the past. To make us a mechanized group of robots would be disastrous. People may be standardized when well, they are all individualists when ill. A machine cannot attend them.

HARRY M. HALL, M. D.

STATE MEDICINE IN FRANCE

Under the French system of gratuitous relief the law provides that every sick person without resources shall receive free of charge, from the local authorities, the country or the state, according to his domicile, for relief purposes, medical assistance at his dwelling, or, if proper care cannot be there afforded, in a hospital.

Under this legislation in 1929, about 1,500,000 persons were benefited of whom half were attended in their dwellings. Over 1,800 hospitals exist, and the children alone who receive free medical care number 180,000 annually.

Since the war public health provisions have organized 600 public dispensaries, as well as sanatoria with 12,000 beds.

ATTORNEY GENERAL CONSTRUES
CORONER'S DUTY IN CASE OF
DEATH WITHOUT MEDICAL
ATTENDANCE

November 10, 1930.

File No. 2856
OFFICERS:

Coroner's duty in case of death occurring without medical attendance.

Hon. Andy Hall,
Director,
Department of Public Health,
Springfield, Illinois.

Dear Sir:

I have your letter of October 11, in which you direct attention to the large number of deaths from unknown causes reported from Cook County during the year 1929, as compared to former years. You state that the increase is due to the action of the coroner of that county in disclaiming responsibility in all cases of death occurring without medical attendance, and you inquire whether it is his duty to investigate such deaths and issue death certificates.

Section 8 of the Vital Statistics act, being paragraph 43 of chapter 111 $\frac{1}{4}$, Smith-Hurd's Revised Statutes, 1929, provides that in case of any death occurring without medical attention, it shall be the duty of the undertaker or persons acting as such to notify both the local registrar and the coroner of such death, and in such case, if no suspicion of death from violence, casualty or undue means exists, the local registrar may make the death certificate from the statement of relatives or other persons having adequate knowledge of the facts. It is clear that under the provisions of said section, before the local registrar is authorized to make the certificate in any case of death occurring without medical attendance, there must first be a determination of the question whether any suspicion of death from violence, casualty or undue means exists.

The duties of the local registrar are purely ministerial. (*People v. Heckard*, 244 Ill. App. 112.) He has neither the authority nor the machinery to make an investigation for the purpose of determining whether a death has been caused by violence, casualty or any undue means. Section 10 of the Coroner's act confers power on the coroner to conduct investigations for that purpose. His powers are quasi-judicial in their nature and he may summon a jury and subpoena and examine witnesses under oath. (*Devine v. Brunswick-Balke Co.*, 270 Ill. 504, 511.) It is because of the powers conferred upon him by the Coroner's act that section 8 of the Vital Statistics act requires that he must be notified by the undertaker of deaths occurring without medical attendance. The only purpose of such noti-

fication is to enable the coroner to perform his duty, namely, to determine whether in such case any suspicion of death from violence, casualty or undue means exists. If his examination or preliminary investigation discloses that the death is due to natural causes, and there is no evidence of any injury to the body, he may, in his discretion, as provided by section 10 of the Coroner's act, issue a death certificate without conducting a further inquest.

In view of the provisions of section 8 of the Vital Statistics act, relative to the authority of the registrar to make death certificates, I am of the opinion that the foregoing provisions of section 10 of the Coroner's act have reference to cases where the coroner's preliminary investigation discloses that the death is due to natural causes, and further discloses the disease causing such death. In such cases I think it would be mandatory on the coroner to make the death certificate, and that the only discretion vested in him by said provisions relates to the waiver of a further inquest, and not to the issuance of a death certificate. I am of the further opinion that if the investigation by the coroner establishes the fact that the decedent died from natural causes, but does not disclose the disease causing the death, and he reports the result of his investigation to the registrar, the latter official would then have the authority under the provisions of section 8 of the Vital Statistics act to make the certificate of death from the statement of relatives or other persons having adequate knowledge of the facts.

There is no express provision in the statute that the coroner must report the result of his investigation to the registrar. However, that duty may be fairly implied from his duty to investigate. In my opinion the provisions of section 8 of the Vital Statistics act must be read and construed in connection with the provisions of section 10 of the Coroner's act, and when so construed limit the jurisdiction of the registrar, as above stated.

I am returning herewith all papers accompanying your communication.

Yours very truly,

OSCAR E. CARLSTROM,

Attorney General.

ADR-AL

Enclosures.

CAN A CORPORATION PRACTICE MEDICINE? CALIFORNIA COURT RULES NOT

An interesting decision by Judge Samuel R. Blake of the Los Angeles Superior Court. In the November issue of "California and Western Medicine" is printed a digest of the decision rendered of Judge Samuel R. Blake of the Superior Court of Los Angeles. The decision was on a proceeding filed by Granville MacGowan of Los Angeles, against the Medical Service Corporation, a corporation with its major offices of business in Los Angeles.

The question, whether a corporation can be organized to practice a learned profession such as law or medicine, has recently been much discussed in those two professions. The opinion handed down by Judge Blake is important and worthy of perusal. We quote:

MEDICO-LEGAL

Judge Samuel R. Blake of the Superior Court of the State of California in and for the County of Los Angeles, in the case of The People of the State of California on the Relation of Granville MacGowan, Plaintiff, vs. Medical Service Corporation, a Corporation, Defendant, recently rendered a decision that should be of much interest to members of the California Medical Association.

Because of the importance of this particular decision a digest of Judge Blake's opinion, which recently came into the hands of the editor, is here printed.*

POINTS FOR DECISION

1. Two of the main questions involved are:

(a) Can a corporation practice medicine?

(b) Is the manner and method in which the defendant corporation is conducting its business, practicing medicine?

On the first proposition the court concludes that a corporation cannot practice medicine. A corporation may be formed for any purpose for which individuals may *lawfully* associate themselves.

The defendant's contention is that since doctors may

*At the time Judge Blake gave his opinion from the bench, the daily press, in substance, stated that Judge Blake's order dissolved the franchise of the Medical Service Corporation and perpetually enjoined that particular corporation from practicing medicine.

Of course, in a legal matter with such scope and ramifications, this decision is not apt to be the end of the story. The entire situation will continue to bear watching. In the meantime it is a pleasure to know that a verdict has been handed down from a Superior Court bench on some of the legal phases of this important problem which is concerned with the attempt of certain corporations to practice medicine.

It must be a gratification to all members of the California Medical Association to know that the effort and work of Dr. Granville MacGowan of Los Angeles had such a successful outcome.

lawfully associate themselves together to practice medicine, likewise it may do so in its corporate capacity as a corporation by employing as its agents qualified physicians and surgeons to do the work of the corporation.

The vice of this contention consists in its assumption that individuals may generally and as a matter of right associate themselves together for the practice of medicine; this assumption is fallacious since under the laws of California individuals may not either singly or in an association engage in the practice of medicine without having a special license so to do, and hence individuals forming a corporation could not under our law gain any other or further right by the act of incorporation than lawfully possessed by either, singly or in the aggregate, without incorporation.

The corporate cannot, of course, as a corporation, pass the medical board examination and can only act through its agents. The right to practice medicine attaches to the individual and dies with him, and it cannot be made a subject of business sheltered under the cloak of corporation having marketable shares descendable under the laws of inheritance. All the directors of this corporation, or stockholders, may be licensed practitioners, but any time these directors or officers, by death or otherwise, may transfer their shares and it might be succeeded by laymen, none of whom possess the right to practice medicine.

Therefore, under the maxim that you cannot do indirectly, as in this case by the creation of a corporation, that which is directly prohibited by law; upon this proposition the great weight of authority in California and elsewhere is that a corporation cannot, as such, practice medicine.

IS THE MANNER AND METHOD UNDER WHICH THE DEFENDANT CORPORATION IS CONDUCTING ITS BUSINESS AMOUNTING TO PRACTICING MEDICINE?

The evidence shows that the defendant corporation is engaged in the business of conducting dispensaries throughout the city of Los Angeles, with its principal office located in the Pantages Building, scattered throughout the industrial district. There are six or seven stations where minor industrial injuries not requiring medical attention are treated. Each of these stations has a waiting room and room where treatment is administered. In each of the stations there is an operating table and instruments necessary to enable a physician to give first-aid treatments. These stations are classed as emergency hospitals and are maintained by the agents of the defendants corporation. In each of the stations the defendant maintains one physician, licensed, and these doctors are employed by the corporation on a straight salary, and are paid a small bonus if the company makes a profit from his particular station. The evidence further shows that the corporation confines its activity to purely and entirely industrial cases. The defendant corporation has no nurses at its branches and the only nurse is at the main office. The doctors are at all times employed by the company and the physician and surgeon gives all

his time to the defendant corporation. All of the doctors are required to report to a chief surgeon, Dr. Nelson at the head office. The corporation makes a charge for the services rendered by the doctor whenever a case is closed. The doctor himself makes no charge and the doctors at various stations are not permitted to treat any private cases of their own, and only do the work of the corporation. This is a brief summary of the important facts of the case.

This unquestionably is a case of first impression in the State of California, being a proceeding by the Attorney General to cancel and annul the franchise of this defendant corporation for the reason that they have violated a law of the State of California and engaged in a business as a corporation, which it is unlawful to do.

The court concludes that the acts enumerated and done by the defendant corporation constitute practicing a system of medicine, or mode of treating the sick and afflicted in this state, within the meaning of the Medical Practice Act, and, therefore, is in violation of law.

Several other important questions are involved, to wit:

1. Whether or not such a holding affects hospitals and charitable institutions now in existence which are corporations.

Clearly this rule would not in anywise affect hospitals and infirmaries which are not practicing medicine, but are independent of the practice of medicine and surgery, nor are most of those institutions profit-sharing institutions and practicing for profit, while the defendant corporation is, and there is no analogy between the present case and the case of hospitals or other private corporations.

2. The fact that the Workmen's Compensation Act compels all employers to furnish medical and surgical aid to the injured in the course of their employment does not offer any reason for a corporation to engage in the practice of medicine. It only requires that they furnish medical aid of a physician and surgeon, and it is not necessary to form a corporation to furnish a physician and surgeon for medical aid.

If, in the last analysis, corporations are allowed to practice medicine as a general proposition, it is the opening wedge to the commercialization of the practice of the learned profession of medicine, and permits the creeping in of many unethical and uncontrollable factors which the law has heretofore rigidly sought to avoid.

One of the main objections to allowing a corporation to practice medicine would be unquestionably the inability of the state to control the practice of medicine by a corporation as it does control it now under the Medical Practice Act, as each member of the profession comes directly under the Medical Practice Act and the corporation herein does not. Unprofessional conduct on behalf of the corporation could not be reached, such as aiding or betraying a professional secret, advertising, or offenses involving moral turpitude, and many others too numerous to mention.

Unquestionably, if the corporation does not come within the provisions of the Medical Practice Act, it would be immune from its penalties or provisions; therefore it is important to the welfare of the people of the State of California, and hence the importance of the prohibiting of a corporation from practicing medicine as a corporation and engaging in that business through its agents for profit.

SAMUEL R. BLAKE, *Judge*.

Attorneys for plaintiff:

U. S. Webb, Attorney General;
Gibson, Dunn & Crutcher, and
Norman S. Sperry.

Attorney for defendant:

Joe Crider, Jr.

Other state courts have held that a corporation cannot practice medicine, for instance:

In the state of *New York* it has been authoritatively decided that a corporation cannot practice medicine (*People v. John H. Woodbury Dermatological Institute*, 85 N. E. 697; *People ex rel. Lederman v. Warden of City Prison*, 152 N. Y. Supp. 977; *Godfrey v. Medical Society of New York County*, 164 N. Y. Supp. 846).

The Supreme Court of *Colorado* has held, too, that a corporation cannot practice dentistry (*People v. Painless Parker Dentists*, 275 P. 938).

To the same effect, in so far as relates to dentistry, is the *Kansas* case (*Winslow v. State Board of Dental Examiners*, 223 P. 308).

A similar holding is to be found in *Pennsylvania* (Com. ex. rel. Attorney General v. Alba Dentist Co., 13 Pa. D. R. 432).

The Illinois law forbids the practice of medicine by "any person," unless that person has a special license to so do. A corporation is "a person." A corporation cannot pass the medical examining board. The right to practice medicine attaches to the individual and dies with him. If our interpretation of the Illinois law is correct then the Illinois Medical Practice Act forbids the practice of medicine by a corporation. Perhaps we have in our present Illinois legal restrictions sufficient authority to prevent the encroachment on the medical profession by corporations attempting to engage in the practice of medicine.

to say relative to medical socialism in relation to wholesale malingerer. We quote:

MEDICAL SOCIALISM PROMOTES WHOLESALE MALINGERING

All socialistic attempts to make the community do what individuals should do for themselves have proved failures. The lesson may be read in the failure of the communal system of the pilgrim fathers, tried after they landed in America, as well as in Russia today. Our "national health insurance" is a gigantic scheme of medical socialism. Here is the report of the cautious official of the ministry of health, anxious not to say too much. "It is difficult to avoid the presumption that the habit of making unnecessary claims has set in and has steadily grown." Attempts are made by labor politicians to blink this fact. In an editorial, the position is revealed by the *Birmingham Medical Review*: "The habit of making unnecessary claims is well known to every panel doctor. In a way he is responsible, for he writes the certificates on which the claim is based. But, poor devil, he is in an impossible position. Authority has created the position. Aided by Authority, the suppliant for benefit holds the whip hand every time. He can demand the certificate with the threat 'Give me what I want or I'll change my doctor.' The highbrow people with fixed official salaries shake their heads when told that panel doctors cannot afford to resist doubtful claims. But the panel doctor knows from much painful experience that the happiness of himself and his family must depend on whether he is or is not popular with the insured population. And popularity depends only very slightly on professional capacity; almost entirely on willingness to accede to demands. The man who will deal out prescriptions and sickness certificates without questioning is popular. He gets the big panel. His more particular brother finds his panel dwindling. The newspapers have been trying to show that the panel patient seeking a rest is a model of everything a patient should be; that his physical condition is undermined by unemployment and consequently he is entitled to sickness benefit. It is not true." This may be compared with the experience of Germany, the pioneer of medical socialism. Dr. Erwin Lick, in his book, "The Doctor's Mission," says that the German system of medical insurance has promoted wholesale malingerer to obtain incapacity payments. Again, in New Zealand the proposal to introduce medical insurance is opposed both by the profession and by the public. A leading journal, the *Dominion*, says: "It is not only that great bureaucracies grow up and fatten on such schemes, but that the so-called beneficiaries are morally debauched, losing self-reliance and independence."

SPEAKERS' BUREAU OF THE EDUCATIONAL COMMITTEE BUSY DURING NOVEMBER

The A. M. A. regular London correspondent under date of August 16, 1930, has the following

117 Physicians addressed High School Assemblies, Parent-Teacher Associations, Women's

Clubs, Men's Clubs with a total attendance of approximately 31,000.

33 Health talks given over radio stations WJJD and WGN.

The Educational Committee through the courtesy of the American Medical Association was able to furnish four bound volumes of the publications of the American Medical Association for display at the Annual Meeting of the Illinois Biology Teachers' Association. The President reports that over two hundred teachers attended the meeting which was held at the University of Illinois and that many of them examined the publications and took the price lists in order to secure copies of this educational health literature for use in the schools.

Four requests came from college students for literature on State Medicine. Two of these came from members of debating teams in Michigan and two from members of debating teams of Bradley and Monmouth Colleges. The Commit-

tee was able to furnish satisfactory material and a report from a Michigan student who was on the side opposing State Medicine states that due to the help of the Educational Committee his side won.

SERVICE GIVEN BY SCIENTIFIC SERVICE COMMITTEE IS POPULAR WITH COUNTY MEDICAL SOCIETIES

Eighty appointments listed here represent only those which were made through the office of the Educational Committee and for county medical societies outside of Chicago; similar service is offered all medical societies of the state of whatever size and regardless of location. The Committee is particularly anxious to be of assistance to those societies which because of their location or their small membership find it difficult to secure speakers. The Committee can be of considerable help in giving county society meetings publicity and in getting out a better attendance. This office is at your service.

DATE	COUNTY SOCIETY	SPEAKER	SUBJECT
1929			
Nov.	Coles-Cumberland	H. B. Thomas	Caudal & trans-sacral Block
Nov. 5	Randolph	O. L. Zelle	Prophylactic Care During Infancy
Nov. 6	Henderson	Joseph Greengard	Standardization of Treatment of Fracture
Nov. 12	Rock Island	H. B. Thomas	Diagnosis and Surgical Treatment of Pulmonary Suppuration
Nov. 12	Rock Island	Carl Hedblom	Gall Bladder
Nov. 14	Clark	J. T. Gregory	Uterine Hemorrhage
Nov. 14	Iowa & Illinois Central District Medical Assoc.	Henry Schmitz	Endocrine Factors in Common Colds
Nov. 14	Iowa & Illinois Central District Medical Assoc.	J. H. Hutton	Treatment of Hemorrhoids by Non-surgical & Operative Methods
Nov. 14	Bureau	C. L. Martin	Arthritis
Nov. 18	Knox	Wm. D. Chapman	Cancer
Nov. 20	Will-Grundy	Pbphil Lewis	Gall Bladder
Nov. 26	Macon	Gilbert FitzPatrick	Sex Gland Hormones
Nov. 26	Franklin	J. H. Hutton	The Old Man and His Prostate
Nov. 26	Macon	Henry Schmitz	Diagnosis and Treatment of Acute Intestinal Obstruction
Nov. 27	Will-Grundy	James T. Gregory	Nepbritis in Children
Dec. 12	Rock Island	Robert M. Oslund	Bronchial Asthma
Dec. 12	Union	T. O. Freeman	Obstetrics
Dec. 12	Iroquois	John R. Harger	Cardiac Complications During Pregnancy
Dec. 19	Livingston	J. K. Calvin	Communicable Diseases
1930			
Jan. 14	Rock Island	Isadore Pilot	Some of the Health Problems of Illinois
Jan. 15	Christian	Quitman Newell	Social Aspects of the Practice of Medicine
Jan. 22	Will-Grundy	J. E. Fitzgerald	Anesthesia
Jan. 23	Pike	J. J. McShane	Observations Concerning the Treatment of Diseases of the Liver
Jan. 23	Pike	Andy Hall	Crippled Children & the Elks Foundation
Jan. 29	Will-Grundy	G. Henry Mundt	Diagnosis & Treatment of Infections of the Hand
Jan. 30	Iroquois	H. A. McGuigan	A Family Talk
Jan. 30	Iroquois	Becker of Danville	The Treatment of Puerperal Infections
Feb. 4	Vermilion	C. A. Elliott	Protein Therapy
Feb. 5	Will-Grundy	Henry B. Thomas	
Feb. 6	Sangamon	Films-American College of Surgeons	
Feb. 7	Madison	C. D. Center	
Feb. 11	Rock Island	A. F. Lash	
Feb. 12	Will-Grundy	Wm. F. Petersen	

Feb. 19	Will-Grundy	R. W. McNealy	A Discussion of Pelvic Fractures and Their Complications
Feb. 20	Whiteside	G. Henry Mundt	Otitis Media and Mastoiditis
Feb. 20	Whiteside	Frank M. Phiffer	Complications of Gonorrhea in the Male
Feb. 20	Jackson	John Carey	Pediatrics
Feb. 25	Irving Park Branch Chi. Med. Society	J. H. Hutton	Recognition & Treatment of Common Endocrine Disturbances
Feb. 27	Iroquois	J. J. McShane	Epidemic Spinal Meningitis
Feb. 28	Clay, Marion, Clinton & Effingham	A. E. Kaehler	Suprenals
Mar. 5	Warren	Philip Kreuscher	Crippled Children's Clinic
Mar. 6	St. Clair	F. O. Fredrickson	Management of Gastro-Intestinal Cases
		S. C. Woldenberg	
Mar. 11	Rock Island	F. Lee Stone	The Rubin Test for Tubal Patency
Mar. 12	Will-Grundy	Francis E. Seneat	Modern Conceptions Concerning the Treatment of Heart Disease
Mar. 21	Coles-Cumberland	H. E. Irish	Prevention & Treatment of Heart Disease
Mar. 26	Iroquois	Clement L. Martin	Treatment of Hemorrhoids by Non-Surgical and Operative Methods
Apr. 2	Will-Grundy	W. S. Grosvenor	Thirty Years of Obstetrical Experience
Apr. 8	Rock Island	Wm. F. Petersen	Protein Therapy
Apr. 9	Will-Grundy	Clement L. Martin	Treatment of Hemorrhoids by Non-Surgical & Operative Means
Apr. 10	Kankakee	A. L. Larkin	Everyday Uses of Radium
Apr. 24	Franklin	A. A. Goldsmith	Gastric and Duodenal Ulcer
Apr. 25	Douglas	Arthur Abt	Immunization
Apr. 30	Will-Grundy	J. Greengard	Pediatrics
May 1	Henry	Edwin W. Hirsch	Pathology, Diagnosis and Treatment of Prostatic Hypertrophy
May 1	Henry	Clement L. Martin	Proctologic Problems of General Interest
May 6	Mercer	Lucius H. Zeuch	Pioneer Physicians and Shrines of Western Medicine
May 6	Mercer	R. K. Packard	Medical Economics
May 7	Will-Grundy	A. J. Larkin	Radium in General Practice
May 13	Rock Island	J. H. Hutton	Thyroid and Ovarian Disturbances at Puberty and the Menopause
May 13	Rock Island	Don C. Sutton	Treatment of Heart Disease
May 14	Randolph	Elsworth S. Smith	Heart and Cardio-Vascular Disease
June 2	Iroquois	E. G. C. Williams	Diseases of the Blood
June 2	Iroquois	E. J. Wheatley	
June 11	Randolph	Cecil M. Jack	Non-Tuberculosis Diseases of the Chest
June 13	McHenry	Harry M. Hedge	Some Common Diseases of the Skin
June 19	Jackson	A. M. Miller	Spinal Anesthesia
June 20	Piatt	John R. Neal	Medical Economics
July 7	Hancock	J. E. Camp	
July 7	Hancock	Wm. D. Chapman	
July 7	Hancock	E. P. Coleman	
July 7	Hancock	Andy Hall	Public Health and the Practicing Physician
July 17	Christian	T. O. Freeman	Acute Abdominal Emergencies
Aug. 5	McHenry	Walter R. Fischer	Foot Deformities—Etiology, Prevention and Treatment
Aug. 21	Elgin State Hosp.	John R. Harger	Treatment of Goiter in the Insane
Sept. 9	Rock Island	Nathan S. Davis III	Diagnosis and Treatment of Heart Disease
Sept. 11	Coles-Cumberland	Harold Swanberg	Modern Treatment of Carcinoma of the Cervix
Sept. 19	Alexander	Edmund Andrews	Diagnosis and Treatment of Gall Bladder Diseases
Sept. 25	Iroquois	E. P. Sloan	Proctentia
Sept. 25	Iroquois	H. Wellmerling	Treatment of Varicose Veins
Sept. 30	9th & 10th Dst. Meet	Nathan S. Davis	
		Wm. D. Chapman	
Oct. 8	Will-Grundy	A. A. Goldsmith	Chronic Colitis
Oct. 13	Tri-County Med. Meet	R. K. Packard	Surgical Mortality and Morbidity
Oct. 13	Tri-County Med. Meet	A. A. Goldsmith	Chronic Colitis
Oct. 13	Tri-County Med. Meet	E. L. Cornell	Forceps Delivery
Oct. 14	Rock Island	Harry M. Hedge	The Modern Conceptions & Treatment of Syphilis
Oct. 15	Will-Grundy	A. F. Lash	
Oct. 22	Will-Grundy	James G. Carr	Cardio-Vascular Disease
Oct. 29	Will-Grundy	Edmund Andrews	The Diagnosis of Chronic Abdominal Pain
Nov. 4	Iroquois	Walter Nadler	Medical Treatment of Hepatic Disease
Nov. 5	Will-Grundy	C. S. Williamson	Research Work Along the Lines of Anemia, Especially Nutritional Anemias and Pericarditis
Nov. 11	Rock Island	G. deTarnowsky	Surgical Management of Carcinoma of the Colon
Nov. 12	Will-Grundy	Hugh McGuigan	Digitalis Therapy
Nov. 19	Will-Grundy	H. D. Singer	Syphilis of the Nervous System
Nov. 20	Jackson	T. O. Freeman	The Acute Abdomen
Nov. 26	Will-Grundy	W. F. Petersen	Focal Reactions in Chronic Disease
Dec. 10	Will-Grundy	Peter Bassoe	Acute Infections of the Central Nervous System

WHAT IS A PREVENTORIUM?

The Illinois Tuberculosis Association has for distribution tuberculosis' abstracts (a review for physicians) issued monthly by The National Tuberculosis Association. Abstract No. 10, October, 1930, is from an article by H. E. Kleinschmidt, *Journal of Public Health*, July, 1930, entitled *What Is a Preventorium?* We quote:

WHAT IS A PREVENTORIUM?

The term "preventorium" was first used to designate a convalescent home for adults (Brehmer's Rest at Ste. Agathe des Monts in Canada) on the ground that any depleting illness may predispose to tuberculosis and that after-care tended to prevent tuberculosis.

In 1909, New York City, through the interest of Dr. Alfred Hess, established at Farmingdale, N. J., an institution to take care of "pre-tuberculous" children. It was called a preventorium. Unlike the Canadian institution, which was designed for convalescent adults, that at Farmingdale was exclusively for children presumably threatened with tuberculosis. Similar institutions sprang up, though practices and procedures were not uniform.

Ideas as to what the preventorium was supposed to be and do were vague. However, the dominating purpose of all was a desire to provide care for the sick child. The term, "pre-tuberculous," was applied rather loosely to the child with actual tuberculosis, the child of a tuberculous household, and the child below par in health, as expressed usually in malnutrition, but all were regarded as sick children.

Quite another development in these early days was the establishment of fresh air schools and open window rooms. Their purpose was to increase the resistance of certain selected persons, who were not sick but who were presumed to be potential victims of tuberculosis. The emphasis was on health building rather than on disease prevention.

As we learned to differentiate between infection, mass infection, and actual disease, and as it became evident that the beneficial results of both preventoria and fresh air schools were to be attributed to rest, good nutrition, and a well-regulated regimen, the procedures and objectives of both types of institutions tended to merge. For that reason, it is today impossible to answer statistically how many preventoria and fresh air schools there are in the United States.

Three years ago, the Committee on Preventoria of the National Tuberculosis Association formulated this definition: "A preventorium is a twenty-four hour, twelve months institution for the care and observation of children substandard in health." The general purpose of this institution was assumed to be giving preventive care to children threatened with tuberculosis, heart disease, or other potential disability. Exact standards of eligibility were not defined but the Committee indicated the groups from which selections for the preventorium might be made, as follows:

1. Children exposed to tuberculosis at home, or in whose immediate family there has been a recent death from tuberculosis.

2. Children who have had tuberculosis, whose lesions are not active, and who appear to be in need of further care and observation.

3. Children suffering from malnutrition.

4. Children who tire easily and who are unable to carry on their class work.

5. Children frequently absent because of colds, bronchitis, etc.

6. Children suffering from rheumatic heart disease (of certain classifications).

It is now recognized that many children who need protective care do not require the exacting regimen furnished by a twenty-four hour, highly specialized preventorium. Some preventoria assume complete charge of their children, keeping them for twenty-four hours of the day the year round until they have apparently developed good resistance, while others permit their charges to return home over the weekend. The predominating purpose of these institutions is to give medical care, and secondly to provide school instruction. Another type of preventorium is essentially a school which cares for the children only during school hours and which furnishes supplementary meals, rest periods during the day, etc., while in the meantime conditions in the children's homes are scrutinized and supervised by a special follow-up worker.

While preventoria, fresh air schools, open window classrooms, nutrition classes, and health camps vary widely in their procedure, the main purpose of all seems to be to give handicapped children an extra life so as to prevent the threatened disaster of pulmonary tuberculosis in later years. Opinion in the main seems to be that children with the childhood type of tuberculosis (unless progressive) should not be regarded as sick children but rather as being threatened with disease. Certainly, children with the adult type of pulmonary tuberculosis should not be in the preventorium, not only because they are definitely ill, but also because they are potential spreaders of the disease.

There would be less confusion of thought about preventoria were discussions concerned not so much with building construction, physical equipment, staff, etc., but with the therapeutic requirements of children who need protective care. Indications for treatment of such children are:

1. Contact with the tuberculous adult, who presumably has infected the child, must be broken. This is done by removing the tuberculous adult to a sanatorium, by taking the child out of the home, or by teaching every member of the household the principles underlying the transmission of tuberculosis.

2. The child must be relieved of all possible strain; i. e., strenuous exercise and burdensome school work. Rest is the cornerstone on which preventorium care is based.

3. The child's health must be built up; physical defects must be corrected and the benefits of good food, sunshine, and fresh air must be made available.

4. The psychology of the child must be adjusted so that he will not think of himself as being inferior to others gifted with greater reserve of physique, and yet restrain over-ambitious impulses.

These indications for treatment can, under ordinary circumstances, be met without the aid of a definite institution, but there are, of course, numerous "problem families," as the social worker calls them, where it is impossible to meet the requirements enumerated above. These problem families are not limited to the poor or ignorant, but include many families of intelligence and of means who, for any reason, are unable to afford the child the necessary protection.

While no formula can be given for the solution of the problem, an understanding of the general principles should enable any community to determine the type of preventorium care which best suits its needs. The various attempts now being made to cope with the problem should be regarded as experiments. The test of time will reveal which type of preventorium is the most efficient. Fortunately, a number of preventorium institutions are carefully following their pupils into adult life in order to learn what their subsequent experiences may be. When enough of such data has been collected, we may be able to determine more precisely what the ideal form of organized care may be.

Correspondence

DR. IRVING S. CUTTER MADE PERMANENT HISTORIAN OF THE ILLINOIS STATE MEDICAL SOCIETY

Monmouth, Illinois,
November 21, 1930.

To the Editor:

At the meeting of the House of Delegates at Joliet last May, a resolution was introduced whereby the Society was urged to have a permanent historian to record the happenings and professional events each year, and to create an interest in our Medical Traditions of the past. The House of Delegates voted unanimously to refer the resolution to the Council, with power to act for the Society.

At a recent meeting of the Council a motion was unanimously adopted that we create the position of permanent historian, and that Dr. Irving S. Cutter, Dean of Northwestern University Medical School, Chicago, be tendered the position subject, of course, to his approval.

Dr. Cutter has assured us that he accepts the appointment and that he will do everything possible to aid the Society at all times. We are indeed fortunate to have a man in our Society

with Dr. Cutter's ability, and well recognized knowledge of Medical History. Every member of the Illinois State Medical Society should assist Dr. Cutter at all times, so that the history of medicine in Illinois will be well preserved for future generations.

HAROLD M. CAMP, M. D.

Secretary.

Note and Comment:

The appointment of a Permanent Historian fills a heretofore much neglected phase of service by our State Organization. The proper perspective on preservation of our medical annals suggests the creation of a permanent historian for the State Medical Society. The happenings and professional events of importance will be recorded each year; details of these events will be fresh in the memory of the historian and can be accurately set down without loss of color; the report of the historian can be recorded annually in the archives and this report can also be presented at the annual meeting of the State Society for discussion and approval, just as is done with reports from other committees. At intervals of ten years or at other stated times, these reports can be taken out and put into volume form for convenience.

HOW MEDICAL MEN MAY CAST BREAD UPON THE WATERS

AMERICAN MEDICAL EDITORS' AND AUTHORS'
ASSOCIATION
412 WEST END AVENUE
NEW YORK

Nov. 10, 1930.

My dear Dr. Whalen:

I do not know how economic conditions are out in your section of the country, but in New York we see many men who have all their lives been workers and will be workers again as soon as the present economic crisis is over.

It is predicted that the winter will be a hard, cold and foodless one for many. If the five million people, ordinarily workers, are this winter driven to clinics for their medical advice, they are apt to become chronic clinic cases, even in good times.

It has occurred to me, quite outside of the altruistic view that we might take of it, that it would be a good plan for the medical profession

to offer to extend credit to the men above described, for the winter months.

Many medical men offering to do this would find they had cast bread upon the waters, because they would have good patients that they would not have if these cases were driven to the clinics, and I think if we ask the medical journals of the country to advocate this medical moratorium, we would be doing good not only for the unemployed but we would be doing a good thing for ourselves.

To discuss this matter and several other subjects of lesser importance, I am calling an Executive Council meeting for three o'clock, Monday, November 24th, at this office. If you find it impossible to be present, do you desire Secretary Vandervoort, myself or any other member of the Council to vote for you, so that we may be assured of a quorum voting?

(Signed) H. Lyons Hunt, M. D.,
President.

I DO NOT WANT TO BE A DOCTOR AND LIVE
BY MEN'S DISEASES, NOR A MINISTER
TO LIVE BY THEIR SINS
A STORY OF COURAGE

"I do not want to be a doctor and live by men's diseases nor a minister to live by their sins, nor a lawyer and live by their quarrels. So I don't see that there is anything left for me to be but an author. How would you like some day to see a whole shelf full of books, written by your son, with Hawthorne's Works printed on their backs?"

The boy who asked this question of his mother was destined to become the foremost of America's novelists. His "Twice-Told Tales" and "Mosses from an Old Manse" were followed by that product of genius, "The Scarlet Letter." In 1851 two events of importance occurred in Nathaniel Hawthorne's household—the publication of "The House of the Seven Gables," and the birth of his youngest child, Rose.

Rose Hawthorne grew up in an atmosphere surcharged with intellectualism. She showed a talent for painting, and studied art in Germany. She wrote short stories for the little folk in "Wide Awake" and "St. Nicholas," and a volume of poems, "Along the Shore." Some exquisite specimens of her poetry are preserved in Stedman's American Anthology. At the age of 20, Rose Hawthorne married George Parsons Lathrop, author of "Rose and Rooftree," who will always be remembered as the author of the lyric beginning, "The sunshine of thine eyes." Each of them wrote a study of Hawthorne, and in collaboration they produced a novel called "A Story of Courage."

With the passing of the nineteenth century, Rose Parsons Lathrop disappeared from the world. In 1900 there

was a new Dominican religieuse, Mother Mary Alphonsa, devoting herself to destitute sufferers from incurable cancer. Her work in the Cherry Street Home in New York City, and in the Rosary Hills Home in the village of Hawthorne, placed her by the side of Father Damien among his lepers in Molokai. She founded the community of Dominican nuns known as the Servants of Relief for Incurable Cancer. Mother Alphonsa's creations seem anomalous in this Motor Age. If you had friends or money, you could not enter the homes of Mother Alphonsa—only if you were poor and friendless were you received as a guest. If you were among the worst cases you would be tended by Mary Alphonsa herself, and you would be surprised to find that in addition to attending to all your needs, she sought to gratify every wish. In their last days the helpless and loveless victims of a baffling disease were face to face with a love that is rarely manifested on earth. In the Motor Age—and yet only those too poor to pay for any service were privileged to die holding the hand of a saint.

The other day the newspapers chronicled the passing of Mother Mary Alphonsa at seventy-six, and perhaps many were surprised to learn that she was no other than Rose Hawthorne Lathrop. The ancestors of Rose Hawthorne Lathrop whipped Quaker women and persecuted witches, but Mother Mary Alphonsa opened her arms to the cancer sufferers of every creed and race. Mrs. Lathrop wrote "A Story of Courage," but the tale does not compare with the story of courage which Mother Alphonsa lived.

The career of Mother Mary Alphonsa helps to redeem our era. To physicians, who know only too well the horrors of incurable cancer, the incredible sacrifice of this high-born woman has a special appeal. The history of cancer cannot be written without the story of Mother Mary Alphonsa and the Servants of Relief for Incurable Cancer.—*Medical Review of Reviews and California and Western Medicine.*

HAD HER WISH

In the days when it was considered quite the thing to entertain the doughboys in private homes, Mrs. Vanastorbilt called up the Army and Navy club and said, "I should like to have two of your men come to dinner with us Sunday at half past one, but please be sure that they are not Jews."

When Sunday came, two chocolate colored privates rang the bell at the Vanastorbilt house. Mrs. Vanastorbilt was, of course, greatly surprised, "Why," she stammered, "who invited you here?"

"Our commanding officer, Captain Cohen," replied one of the privates.

ACCOUNTED FOR

"Now they claim that the human body contains sulphur."

"In what amount?"

"Oh, in varying quantities."

"Then that accounts for some girls making better matches than others."—The Indicator.

Original Articles

SOME ECONOMIC FACTORS RELATING TO ORAL HYGIENE PROGRESS*

HERBERT E. PHILLIPS, D. D. S.
CHICAGO

Within the last few years in the dental profession, there has developed a great interest in the economic phase of dental practice. As the medical training of the physician has not fitted the physician for the business side of his practice, so dental training and tradition has also a tendency to make the dentist ignore the economic side of his calling.

But within recent years there has been a growing demand on the part of the rank and file of dental organizations for recognition of the facts that many dentists are unable to make a decent living, that they have to remain in their offices long hours, have to work nights, are unable, because of custom, to charge reasonable fees for certain services, are often unable to collect bills because somehow or other people have the habit of not paying doctors' bills and have classified the dentist as just another doctor. I am told that credit rating agencies as a usual routine do not consider a person a poor risk if they do not pay their doctor's bill; a grocer's bill is different.

In addition to these complaints, there is the more serious one relating to the fact that many patients come to the dentists' office for an examination and for an estimate on the cost of needed service, and then step out of the chair with the statement: "I cannot afford to have my work attended to now, maybe later"—or they will make an appointment and not show up.

Since starting mouth examination and dental health educational work in the schools, an increasing number of parents bring their children to the dentist, have the necessary extractions taken care of but refuse to have the remaining carious teeth filled because they say they cannot afford it. On the other hand, some dentists refuse to take care of children because they cannot charge and collect a reasonable fee for children's service.

In an effort to meet intelligently this growing unrest among its members, some local societies

have organized committees on dental economics to study the problems involved. At the meetings of these committees an effort is made to present programs to cover those phases of the subject on which sufficient data has been collected to give some constructive and helpful suggestions to the profession. This material is also used in study clubs.

In the Chicago Dental Society such a committee on dental economics was formed a year ago. This committee divided its members into subcommittees to study and report on a number of subjects, such as the survey of dental income, business procedures in office practice and problems affecting the profession as a whole, such as clinics, finance and collecting agencies, etc.

At the Chicago Dental Society Midwinter Meeting held at the Stevens Hotel, which was attended by about five thousand dentists from all over the country, speakers in the dental economics section presented papers on the following subjects:

Economic Management of Dental Practice.

The Status of Dentistry in our Economic System.

Conditions Under Which An Increase in Fees Is Justified in Dental Practice.

Symposium:

Is Dentistry Meeting Its Social and Health Obligation to All Members of the Community?

The Viewpoint of the Profession.

The Viewpoint of the Layman.

Public Health Viewpoint.

The Viewpoint of the Industrial Dental Clinic.

A Dental Collection and Credit Bureau for the Chicago Dental Society.

A debate was staged at which the following question was discussed: "Has the economic phase of dental practice kept pace with the scientific?"

These sessions and this debate drew the largest attention from our members of any of the sessions of the Midwinter meeting—more attending this section than any other. Since this program was presented a great many requests for copies of these papers have come to the Chicago Dental Society and practically all the speakers have had from one to a dozen calls to different parts of the country asking for more papers on the same subject.

I present now a short statement of the public

*Read before Illinois State Medical Meeting, Section on Public Health and Hygiene, May 21, 1930.

service and oral hygiene activities of our profession. Generally speaking, the Oral Hygiene committee members engage in dental health educational effort in schools and before lay groups. They, also, to make contact with state boards of health, endeavor to have dental health officers appointed and about twenty states now have such dental health officers. In the cities Oral Hygiene committees seek appropriations for oral health education and mouth examination in the schools, also for reparative dental clinics in the schools.

Most large cities and many small ones have carried on this work for years with varying degrees of success. I shall illustrate the field in which these committees work by reference to the Public Service Committee of the Chicago Dental Society. This committee has been very active. It has about thirty members and is divided into sub-committees under the different activities: Division of Lay Education in Cooperation with the Illinois Dental and Medical Societies and Federation of Women's Clubs, Division of Teaching Dental Hygiene in Public and Parochial Schools, Division of Dental Service by Chicago Department of Health and Cook County Advisory Board of Health, Division of Children's Dental Clinics, Division of Dental Health Exhibits, Division of Hospital and Children's Homes, Division of Extension of Children's Service by Dental Schools, Division of Public Speaking, Division of Industrial Relations.

In Chicago, with the active help of Dr. Kegel, Commissioner of Health, and members of the women's clubs, parent-teachers associations and social agencies, one hundred and ten thousand dollars was appropriated a year ago for the creation of a dental division in the Chicago Department of Health. These funds are expended under the direct and constant supervision of the Chicago Dental Society Public Service Committee through an advisory body of dentists. Two-thirds of these funds are expended for oral health education and mouth examination and one-third for free reparative work in the school clinics. I may say in passing that some of your active members of the Chicago Medical Society advised our members strongly against the free clinic phase of the work. While they did not act according to advice, the committee and members gave thoughtful consideration to that advice in their deliberations.

The Public Service committee also started and still supervises the Children's Dental Clinic of nine chairs at the Cook County Hospital.

Another activity of this committee is the giving of help and advice to the Amalgamated Garment Workers' industrial pay dental clinic for adults. At the request of Mr. Levine, a dental advisory committee selected the operators, decided as to their salaries, and made the schedule of fees to be charged. Before this advisory committee contacted with the union a meeting was called of the members of all the branches of the Chicago Dental Society practicing in that part of the city where the clinic operates. After a full discussion of the whole matter the members present by an almost unanimous vote recommended that the Public Service Committee appoint an advisory committee to advise and direct the union in the development of the clinic.

At the present time the Public Service Committee is negotiating with the Rosenwald fund with the idea of cooperating with them in the establishment of a self-supporting experimental pay clinic for those persons unable to pay the regular fees of private practitioners.

You will note that all these clinics are under the direct and efficient supervision of the Chicago Dental Society.

In view of the facts I mentioned in my opening paragraph, the question arises: "Is the Public Service section jeopardizing the economic status of dentistry by the activities in which it is engaged?" This question forces us to direct our thoughts to the realm of dental economics and to make some analysis of the dentists' function in modern society.

It is estimated roughly that sixty thousand dentists in the United States get approximately one hundred sixty million dollars for dental service annually. We go farther and find, roughly speaking, that twenty-five per cent. of the families in the United States have an income of over two thousand dollars a year. We also find from investigations made that the families with a two thousand dollar or less income spend practically nothing for dental service. They say they cannot afford it. That means that seventy-five per cent. of the population are getting little or no dental service. The upper income fifteen per cent. of this twenty-five per cent. of families, say those

getting three thousand dollars a year or over, can afford fair dental fees, and the lower ten per cent. cannot afford such fees.

Those dentists serving the first fifteen per cent. are as a rule the ones who have no particular complaint about income. Those, however, serving the lower ten per cent. are the ones who have reason for complaint and the more patients they have of the lower five per cent. the less likelihood they have of making a living income. This leaves about seventy-five per cent. of the population unable to pay fair dental fees. What can be done about it? Some adjustment must be made to meet this situation.

A few general principles: In the first place we must not look on change or experiment in the method of giving dental service as evil. Any change meeting certain requirements which will make possible dental service to a larger number of the population must be welcomed. Two questions, however, must be answered.

1. Will the change lower the standard of service as measured by that given under present private practice conditions or will it make possible an increasingly higher standard of service? No change is of lasting value to the public that contemplates or is likely to result in a lower standard of service.

2. Will the proposed change tend to lower the income of the private practicing dentist? The panel system in England has made dental service available to a large bulk of the population; it has also in a measure increased dental income, but it has lowered the standard of service in England. To illustrate: A fee fixed at seventy-five cents is allowed the English Panel dentist for treating any tooth. This treatment may take hours of time. A fee fixed at about twenty dollars is allowed for making a plate. The plate may take about the same amount of time. The result is, as Dr. Doubleday, president of the London Dental Society, says, "They do not treat many teeth; they make more money on plates."

The dentist must not be forced to become a trade unionist in attitude, and economic reasons rather than the patient's needs must not determine what treatment the patient will be given. So any change must not have a tendency to lower the economic status of the dental profession. Dental income and standing must be sufficient to insure a constant supply of high grade intelli-

gent young men and women to our dental schools. In England at the present time the dental schools are faced with a decreased interest in dentistry.

I have tried to indicate to you the interests involved in the two phases of dental activities and I hope I have made clear to you why in these questions of type and conditions of change, both the economic committee and the Oral Hygiene public service committee must come together and agree on procedure.

As a scientific body of men we have met the pathological conditions we seek to alleviate in a spirit of analysis and experiment and our researches have indicated from time to time the necessity of change in treatment or procedure based on the result of analysis and experiment. Must we not meet the problem of the community obligation of our profession in the same spirit and manner as we do our problems of treatment?

It is only as results of our analysis and experiment in treatment are applied to the needs of human beings that they have any value. Unapplied knowledge of scientific dental care is a dead thing, and seventy-five per cent. of our population are unable because of insufficient income to use modern dental service. Any change must be measured by the question: Will it make possible the application of the best in methods of treatment and of methods of prevention as they are developed? Will the change contemplated encourage further research and application of improved dental service?

The Panel system in England and the various similar methods adopted in European countries have greatly increased the number of people who receive dental service and have in many cases increased the dentists' income (as it has also the physicians'). They have on the other hand lowered the standard of service and have placed the practitioner in the position of a trade unionist. He does what he must for a set price.

In America the dental profession cannot afford to let anything like this happen and must show the American public that the professions here can plan and give leadership to an extension of service to the masses of people that will not jeopardize the high standard of service already achieved. To do this it will be necessary to meet the lay public in a way that will give them confidence in our ability to establish this service.

I will mention here two suggestions having this situation in mind that have been made in Illinois and both contemplate experiments that may lead to valuable results. One suggestion has to do with those health measures that relate to general public health and disease prevention. The plan provides that the professions give direction and leadership to that large and increasing number of lay groups who are becoming more and more interested in health measures, especially as they relate to children.

This first suggestion comes from Dr. Grace Wightman and has been given voice through the advisory committee to the division of Child Hygiene, State Department of Health. This committee is made up of representatives of the medical, dental, nursing, and public health professions, also of representatives of the Illinois Federation of Women's Clubs, and of the Illinois Congress of Parent-Teachers. This committee has been in existence for about three years and meets monthly.

The suggestion of Dr. Wightman is briefly as follows: The county is to be the unit in which all lay groups such as school officials, service clubs, churches, women's clubs, P. T. A., etc., are to organize a health committee under medical and dental leadership. All health activities are to be given voice and direction under these auspices. In this way dental and medical and lay backing could be given to periodical health audits, toxin, anti-toxin, vaccination, tuberculosis, maternity aid, periodic dental examination, pre-school examination, heart disease prevention, cancer prevention, and all other important health measures. In this way lay groups would learn to look to and depend on the professions for leadership in health matters and the medical and dental professions would learn how to lead lay groups in such important matters.

I may say in passing that through the service of this advisory committee a very close working basis has already become possible between the medical and dental organization and the Illinois Congress, P. T. A., and Illinois Federation of Women's Clubs and nurses. Your state medical society officials have helped these women's organizations plan their health programs and these women's organizations have given invaluable assistance to the dental organization in getting their program adopted in Chicago and other cities. In my judgment, if and when such

county health units are organized and functioning, there would then be no need to fear either antivivisection, Sheppard-Towner or dental mechanics legislation. Informed intelligent lay group members, used to professional leadership, would be poor soil in which to sow that type of seed.

For the dentist this county unit offers a wide opportunity for carrying out one of the most important preventive measures we have—that is, educating the people to the need for regular periodic and careful dental examination and repair.

Also it would make it possible to get lay backing for adequate pay for dentists in schools, departments of health and clinics, a matter of definite economic significance from a dentist's standpoint. A public that has been educated to understand what good dental service is either preventive or reparative, will not be satisfied with less and will be willing to pay fairly for that service even if provided by state or private funds.

May I mention here that when a committee of women's organizations and members of the dental profession in Illinois visited the finance committee of the Legislature and Senate, several years ago, with the idea of having adequate salaries budgeted in the Department of Health budget for dental health officers (they asked for five and six thousand a year) the committee members were informed by the state officials that physicians could be hired for much less and surely a dentist could not ask for more.

I spoke of two suggestions for experiment in Illinois. I have mentioned the first one. The other suggestion referred to is the one made recently by Dr. M. L. Harris, one of your most active members, and I presume you are all familiar with the details. Dr. Harris prefaces his suggestion with a statement to the effect that it is the function and obligation of the medical (and he includes the dental profession) to provide medical and dental care for the rich and poor, those who can and those who cannot pay, and he suggests that meeting this obligation will require a spirit of social cooperation on the part of the professions and an extension of medical and dental service by important changes in organization. He then as you know proceeds to give the details of his county unit plan for giving the medical service to all who need it. Should

the physicians decide on experimenting with this or any other similar plan I am sure the dental profession would give full cooperation. It would give them a chance to experiment in districts outside the large cities and to feel their way in providing a much needed service to a population which does not at the present time realize the health value of dental service.

I wish to record a personal opinion, namely, that the state will in the next ten to twenty-five years seek to improve the health care of all of the American people through insurance, through clinics, pay and part-pay, through departments of health, through industrial medicine and dentistry, and by any other means or organization of medical or dental service they think will work. Industry will do this because having good healthy workers cuts down labor turnover, increases efficiency and stability and thus increases profits.

The state wishes to have healthy citizens. As many of you remember, our late draft of men for the world war indicated a large percentage of physical deficiency among our young men. This demand for healthy citizenry by both industry and the state, plus the increasing public demand for health care for children, plus the demand for health care for that increasingly greater number of people who are being educated to demand better health service by the educational efforts of organized medicine and dentistry—this demand I feel will have a tendency to increase the number and type of organizations through which service will be rendered by physicians and dentists who will be employed for a fixed fee or on a salary.

If these organizations increase under the sole auspices of industry or of the state, or under the sole direction of lay groups, or funds, all of whom will attempt to purchase the professional service at a low wage, it will be inevitable that these employees, i. e., physicians or dentists, will have to organize into economic organizations or trade unions to protect their interests and secure adequate income and conditions of work. Such a union has, I understand, been formed in the Department of Health in Chicago.

In European countries, such as Germany, Austria and England and France, where these changes have already taken place under state and

lay direction, economic professional trade unions have been organized.

In Germany, I am told, about eighty per cent. of the professional men are in the trade union organization and about thirty per cent. in the scientific organization. This change has of course resulted in the lowering of the standard of service to the people and has lowered the social standing and professional prestige of the practitioner.

To prevent the coming of this condition in the United States, European leaders in medical and dental organizations who have been through the fight strongly advise American professional men to prepare to meet this situation before it arrives in this country. They advise strongly that the professions lead in providing service, that they become the experimenters, and that all suggestions for change or improvement come first from professional men, that there be no break with but rather an attempt to cooperate with public opinion, in other words, that the professions become the experts in all phases of social change involving medical or dental service.

They advise that only by so doing can the valuable traditions and ideals developed by centuries of service and so necessary in guaranteeing the highest standard of service to the public, be saved for the future.

Only by having the organized professions extend the sphere of their activities to include the economic problems of practice can the formation of professional trade unions be prevented.

Only by giving wholehearted professional leadership and direction to the dental health efforts of lay groups can their confidence and cooperation be guaranteed, and a favorable public opinion be assured to the dental profession.

Only by recognizing what Dr. Harris calls our professional obligation can we dentists hope to meet the personal dental health needs of the people.

In my opinion it is imperative for the future progress of the dental profession that dental economics be given increasingly greater consideration and that all public service or oral hygiene activities be carried on with a full knowledge that the economic standing of the dentist must be of first consideration in any experiment in the field of dental service. On the adequacy of this economic base rests the whole superstructure of the future scientific and

professional attainments of dentistry and the standard of dental care the American people will receive.

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THE SCHOOL PHYSICIAN IN A COMMUNITY HEALTH PROGRAM*

A. A. CROOKS, M. D.,

PEORIA, ILL.

INTRODUCTION

To delineate in detail the full scope of the school physician's activities would irk you and consume more time than is at my disposal. I shall enumerate some of the outstanding activities of a school health program before briefly outlining the purpose and results of such a program, taking as little time as possible, with the hope that ensuing discussion may be full and free.

Annual physical examination of each pupil every other year, to include vision, hearing, nares, tongue, fauces, chest, posture, nutrition, immunity status, and any other defect presented in a cursory review.

Formal notice to the parent is given if the physical disqualifying defect is rendering the child uncomfortable, is progressive, or rendering him twenty-five per cent., or more, inefficient.

When possible, a school contact check is made in thirty days and if no attempt at correction has been made, home contacts with the parents by the nursing personnel is undertaken to interest the parent in such correction, through their physician, dentists or some welfare organization. A later check is made to determine if promised corrections have been done.

Selection of pupils and installation, through the superintendent of schools, of special classes, serving outstanding defects of vision, hearing, speech, nutrition, cardiac and types of nerve instability.

Pre-school examinations to detect physical defects and immunity status, working in close cooperation with the family physician and ethical, infant and child welfare organizations that these defects may be corrected before school entrance.

Selection and repeated weekly and monthly physical examinations of children in open window or preventorium rooms.

Some twenty speaking appearances before luncheon, Parent-Teacher and Mothers' Clubs throughout the year.

A physical examination every third month of all pupils who are failures in more than two subjects.

A contagion check for the full incubation period, of all pupils of any room where contact has occurred and home calls are made by the school physician or nurse on absentees of such rooms during incubation period.

Generalized health educational advice is given whenever appearing before small or large groups, touching diet, rest periods, play activities, posture, clothing and sleep periods. If special advice is needed, the child is referred to his family physician.

Some one has said, "To train the mind and neglect the body is to produce a cripple."

Good health and a sound body is the right of every child. For without a comfortable and healthful body the mind cannot expand, or receive educational advantages as rapidly as the child who is blessed with these advantages.

In Illinois, children are legally required to attend school not less than ten years. The mere fact of close assemblage immediately creates a health problem. Proper environment for school buildings and grounds should be the first consideration. The architecture of the building with reference to light, ventilation, heating and pupil capacity is equally important. All of the above requirements may have been met but are greatly discounted if there are in attendance either teachers or children whose physical condition is a menace.

To meet and solve the above problems, initiate and further, established points in a community program of health education is, I take it, the aim of the modern school physician toward a community health program.

Every proposed activity in a school health program should be appraised for its educational value before being put into practice. A review of the development of school health programs during the past ten years cannot but impress one that often it has been out of the hands of

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sound educational guidance and all too frequently without judicious medical advice.

Medical service by the school should be only of a supervisory character and its medical and nursing personnel engaged only in educational activities along preventive lines. In our present social status the school is not primarily engaged in service and in my opinion, this attitude should hold particularly true in the Health and Hygiene Department, which should ever remain a system of inspection and education and not of treatment.

The class room teacher is the first to see the child and if suspicious of any abnormal condition, she refers the child to the school nurse, and if the trouble is any more than a minor one, the school physician passes on it, possibly excluding the child, notifying the parents of his diagnosis by a formal card, bearing a written request that the family physician be called in for diagnosis and treatment. If financially unable to employ a physician, the child is referred to the proper clinic or county physician. The nurse is never permitted to diagnose a case nor the school physician to prescribe for one. Parents, their physician and welfare organizations should assume responsibility for relief and medical treatment.

The primary object of exclusion is to prevent the spread of communicable diseases and one's actions here must be done timely and fearlessly—the high and the low, the rich and the poor, having the same treatment meted out to each. God pity the school physician who deviates one iota from the above, for it is certain that irate parents, will not. Proper disposition of all major communicable diseases is taken care of by the City Health Authorities, and as soon as quarantine is established the responsibility for the case and contacts passes out of the hands of the school physician. Cultures of all children in a room where a major communicable disease has occurred are taken only where contact seems to warrant or is otherwise deemed advisable. State Health Department "Rules and Regulations" must govern in the return to school of the case and contacts. The matter of exclusions and time spent from school becomes a very important consideration, as well as an economic problem. There can be no question that much of the taxpayers' money is saved due to the fact that health

instruction and inspection reduces sickness, which acts to reduce absence, thereby preventing the repetition of grades, which automatically reduces the cost per pupil in educational activities.

Medical inspection or physical examination of children at school may be made a valuable educational feature. The term "inspection" is preferred in order to distinguish it from the comprehensive procedure which "examination" should convey. Lack of privacy and time, if for no other reason, makes the cursory, rapid-fire physical examination by the school physician, no more than an inspection. This is as it should be. Dependent on his professional background, acquired skill and "approach," will his findings of abnormalities be verified by the family physician, specialist and dentist. It is not, and never should be the province of the school physician to make an exhaustive, painstaking physical examination of each school child. It is enough that he calls to the parents' attention his findings of abnormal conditions, with the formal request that he consult his family physician or dentist for a more complete examination and treatment. Although rapidly performed the skilled school physician in his inspection of the child before him frequently finds departures from the normal that had escaped the attention of the child, his parents, teacher and on rarer occasion, even the family physician himself. Physical inspections at school can be of only a "directing" character at best, somewhat like the examination of the admitting officer of a general hospital. They cannot be final in any sense. The educational value of the procedure is sensed by the child and parent alike and is of tremendous value in inculcating in their minds the necessity for periodic physical examination by their own medical advisors.

Finding physical disqualifying defects and their notice to the parents, although commendable, will avail nothing unless the remediable ones are corrected. Often this proves puzzling and dilatory, necessitating repeated follow-up home calls by the nurse or school physician who "sell" the idea of such corrections. In this connection the results of physical inspection and correction should be carried over into physical education and the child given those physical activities which are appropriate for him. The outstanding physical deficiencies, including the

vision cases having 20/70 or less vision, after the best possible refractive corrections have been made, the crippled child whose inquisitive test is normal or slightly lower, the deaf or progressive hard-of-hearing child and the larger group of children suffering chronically from anemia, malnutrition, adenitis, and especially those of this class who are known to be hylum cases or contacts of open tuberculosis should be segregated by forming special classes in suitably equipped rooms and under the tutelage of especially trained teaching personnel. Assumption of supervisory treatment, even in these groups may lead one far astray, imposing a problem of service which in our opinion, should be borne elsewhere.

More needs to be said about the health of teachers. Their personal health record should be known when their applications are considered. If it is not feasible to have them examined by a physician of the Board's selection before their employment, their contract should provide for such an examination soon after. The results of this examination should enter into consideration in a renewal of the contract. In no type of work is there any greater moral obligation to be in good health.

It is one of the prime functions of the school physician either by himself or through his organized department, to keep the public informed regarding the activities of his organization. This can best be done through the medium of the newspapers by describing in readable and understandable English those routine services which affect the family of the common citizens in their daily life. There is no universal prescription; individuality and personality will vary the presentation. Surprising as it may seem, speaking appearances before Parent Teachers' Organizations, Mothers Clubs and Allied Organizations do not seem to present the same favorable general reactions toward a public health program as is followed by the same type of effort in the news columns of your local newspapers. The school physician is never justified in sacrificing the accepted and proven facts of health for the sensational and startling portrayals of unproven and doubtful origin. He is most successful who can mix the dry language of the scientist with the highly colored portrayals of the modern commercial advertiser.

Another important function of the school physician is to keep the public informed concerning the prevalence of diseases and the possible influence of epidemics on the health of the local community. Health as a news feature has always received due consideration from the newspaper editor. The reader is especially interested in knowing the means of disease prevention and relief in time of epidemic.

It should be an objective of the school physician to stimulate health consciousness in the community so that by degrees the citizen automatically incorporates into his daily habits the practice of personal hygiene and secures for himself and his family the specific means of stimulating artificial protection against such diseases as diphtheria, typhoid fever, smallpox and scarlet fever. As previously stated, sensationalism should not be utilized at the expense of truth, but a modernistic tendency in the presentation of simple facts will do much to stimulate response from the layman. This type of educational program should be built on the best known scientific foundations. All material of a medical character used in such an educational program should, of course, have the approval of the properly organized medical society. There should be no tendency toward paternalism.

In closing, may I briefly suggest, that the control of contagion, the detection and correction of physical defects, important economic factors as they admittedly are, we feel, must assume a secondary role in favor of scientific health education, if we are to minimize or prevent these economic losses from occurring in the immediate future generation—a goal, not impossible of approximate fulfillment, challenging our best united efforts.

The principle of informative co-operation, rather than that of brusque authority should motivate the management of the school physician's department. The same spirit of cooperation should dominate his executive, supervisory and administrative practices and permeate all of his curricular and extra-curricular contacts and activities.

The carrying out of the plan involves class and home visitations, personal conferences and a sympathetic desire to serve faithfully and intelligently the hundreds or thousands of pupils representing a great variety of physical, mental

and social inheritances, ranging from the dull to the very superior. They exhibit a great variety of aptitudes, interests, capacities, and adaptabilities. They come from the homes of the poor, the moderately well-to-do and the rich. Some have careful guidance and proper supervision in the home and elsewhere; some have had none. They differ in race, color, tradition, outlook and in their resources of time, money and native ability. In short, it should be the aim of the school physician to provide a school environment in which under professional guidance, stimulus and control, the pupils will feel impelled to live healthy, happy and morally worthy lives. In such an environment we hope to encourage and guide them while they are growing toward physical, mental and social maturity and gaining some of the knowledge, attitudes and skills preparative to effective social living.

Administration Bldg.

DISCUSSION

Dr. F. A. Turner, Rockford: It seems like a waste of time almost to get up here and attempt to discuss such an excellent paper, one which covers practically every phase of the work so thoroughly as Dr. Crooks has covered in this paper. Yet I want to make just one or two references or discuss briefly one or two points brought out in his paper.

The first point I want to mention is one in regard to the school hygiene department being a department or system of inspection rather than one for treatment. We do treat first aid cases in school but we should not treat anything more, in my opinion, than first aid cases.

We are called upon many times to treat cases of injury that have occurred outside of school. On Monday morning I saw a boy in school who had fallen on Friday evening and injured his clavicle. He waited until Monday morning to come to school to see the nurse for a diagnosis. I happened to be in the school. So I sent him directly to his family physician. That is one reason why we should have a system of inspection and not of treatment. And I believe, too, in this, that vaccination against smallpox and toxin-antitoxin should not be included in the treatment. I don't think the school physician should do a vaccination either against smallpox or diphtheria. That should be left to the family physician.

Next, he spoke of the frequency of examinations, an annual examination or an examination every other year. Now, in our system, we begin with the kindergarten pupils, and then we take the first grade pupils, then skip to the fifth grade, so that the child who is in this school continuously gets his third examination by the time he reaches the fifth grade. From the fifth grade on we examine all pupils, particularly for their condition of heart, those that participate in swimming and

athletics, and then we give a more thorough and complete physical examination for all pupils who participate in competitive athletics such as football, baseball, basketball, track work, etc. And, of course, all special cases that may be referred to us by the nurse, principal, teachers or other supervisors.

Now, as to the character of the examination, I don't believe Dr. Crooks mentioned that. That depends on what you are looking for. I have a questionnaire on my desk that I haven't turned in yet from the White House Child Health Committee. I don't know whether that is the right heading or not. Some of you may have received one. One of the questions in that questionnaire was, "How many pupils do you examine per hour? How many per day?" That is just like a machine that puts out so much piecework. Some days I examine perhaps ten pupils, depending on what I am looking for. If it is a more thorough physical examination, it takes more time; if I am testing hearts for swimming and hearts only, I have tested as high as 215 in one forenoon, but that's for one thing only. It depends altogether on what you want to do. How many do you do? I don't think you can answer that question how many you should have per hour or how many you should have per day. It is too much like a machine putting out piecework.

Now one thing more in regard to examinations. Dr. Crooks mentioned the teachers. We haven't gotten to the point yet where we are examining our teachers, and I don't believe that the school physician should examine the teachers. I think they should come with a certificate of health when they make application for a position to teach. The teacher's colleges throughout the country are instituting a course of health teaching and the teachers must teach health and they must come with a certificate of health when they come with their application.

So far as the other workers about the building are concerned, the janitors and the cafeteria workers, they should also be examined, I think, and I believe they should be examined by the school physician. We have started already this thing in our schools and we have gone through all of the janitors, given them a thorough physical examination, including the blood test, smears for gonococcus, and urine test, quite a complete examination, and that has been done also with the cafeteria workers, the women who are in the cafeteria and who handle the food that the children eat, and the men janitors who work around the buildings, in the lavatories, etc., where the children frequent.

Now, just one more point and I am through, and that is in regard to the pre-school examinations. I want to commend the State department for the course they are pursuing now in regard to pre-school examinations of children. We have just had two meetings in Rockford. It wasn't possible for me to be present at either one of those meetings, but they are advocating that these pre-school children be taken to the family physician for their examination and that is as it should be. I don't believe that the school physician should be any more concerned about the pre-school

examinations personally than he should a post-school examination. The medical profession for years has advocated periodic examinations and this is a good time to begin them. We are in favor of it. But we believe it is the family physician's duty to do it and not the school physician's.

Dr. Arlington Ailes, La Salle: This discussion has stimulated me to say something, this question of inspection vs. examination. Dr. Crooks called it a mere inspection. I think it approaches an examination. I think the school examiner, who is doing a lot of this work, when the children are stripped to the waist before him, gets a certain routine and a certain experience that enables him to do nearly a physical examination. It does not quite equal the family physician's, because the mother cannot be present in our system of school work. But we do get a certain knowledge of the child, and the normal, the abnormal and the diseased. We get a knowledge at a glance of his eyes, ears, nose, throat, tonsils and teeth. Similarly we get a knowledge of his posture, thyroid, skin,—its color, texture, subcutaneous fat, and so forth. We get a knowledge of heart and lungs, which we can do rapidly; we take all these things in at a glance. So that I do believe that our work in the school approaches very closely a physical examination.

Now, the thing that stimulated me to discuss this was Dr. Turner's statement here regarding heart examinations. He said, "When I examine hearts, I do 200 in an hour."

Dr. Turner: No.

Dr. Ailes: In a morning?

Dr. Turner: In the whole forenoon.

Dr. Ailes: Well, I cannot do that. When I examine the hearts of athletic boys and girls and especially for swimming, then is when I slow down. We do not find our children dying in swimming pools because they have a valve leaking. These hearts are usually compensated and they react to mild strains, etc. What tests they need most are for the reserve power of their hearts and particularly as to whether they faint, have fits and things of that sort. I examine them at rest and then make them exercise, and listen to their hearts again. I examine their hearts once more after resting a minute, to see if they recover properly. This is important in the hearts of athletes.

As to first aid, we have a little tendency for children to come to school from homes with sores or slight injuries to be dressed, so that I have instructed our nurses in the schools to hold themselves strictly to first aid, namely, injuries that occur at school. We send them back to the parent for boils, etc.

Now, we have a little advantage, I think, over Dr. Crooks and the gentleman who discussed the paper, in that our school work and our health department is one. We not only examine them in school but we do the quarantining ourselves. Our nurses make the schools daily and little minor things that do not need much attention they take care of. We leave them in school or exclude them as the nurse deems best; if they think they should see them, they exclude them

and leave a note for me on my desk and I see them in the afternoon. And oftentimes the trouble is merely a redness of the throat or something that cannot be diagnosed, and for which we ask the parent to keep them out of school a certain period of time. This gives them some chance to clear up these slight defects. If it is more serious, we will put on a quarantine, designating it as a suspicious case of this or that disease so that we can go back and check up. Very frequently I find a mild case of scarlet fever and we promptly place a quarantine while I am there. However, we usually urge the parents to call their doctor. We believe that in many, many cases of mild contagious disease the doctor is called as the result of the nurse's and my visits. Sometimes they call the doctor to try to get out of quarantine after we have placed the quarantine for a mild case of scarlet fever or other diseases.

I have an idea that this, what we might call intensive school work with the health officer following up these exclusions, has done a wonderful lot of good. For instance, I just wonder if diphtheria might not be susceptible to this form of school work. We have not had a case of diphtheria in 30,000 population for three and a half years, nor have we had a death in five years, and there has been practically no toxin-antitoxin given in our community. I do not have the courage to strongly advocate it, or put on a strenuous campaign for it in the face of no cases and no deaths for so long a period. I wonder if this separation of the pupils, this exclusion for various periods of time of suspected cases, might not have had an influence on diphtheria which it does not have on scarlet fever. We have had many, many cases of mild scarlet fever, but we have not had any diphtheria for the length of time I gave.

Dr. W. H. Smith, Benton: I think the biggest thing Dr. Crooks mentioned in his paper is this: the diagnosis and control of communicable diseases should be secondary to scientific health education. You can enlarge on that. I shall not take the time. I want to say that it must be pretty work for these city health officers where everything works lovely like it is greased.

I just want to give you a little experience of a district health superintendent. You talk about the teacher bringing a health certificate from some practicing physician, some family physician. Here is what happened down in Southern Illinois: a teacher in the school where a physician is president of the board of education, and as such president examined the teacher on complaint of others and diagnosed smallpox. He closes the school and quarantines this young woman. She deliberately walks out to a larger town or city where the city health officer is a physician and she gets a certificate of clean health from that city physician and also health officer, and another physician.

Another instance, where a doctor diagnosed a case of smallpox way out in the "sticks." The case was quarantined. The father of this young man is a preacher and he wants to go on preaching. He doesn't want to be in the "bull pen." So he gets on the train and goes

up to the county seat and he secures a certificate from qualified welfare organization for such help, either that or the county physician.

two physicians and one of them is the health officer, who knew at this time that there were more than 75 known cases, in his own jurisdiction, of smallpox, but he gives this preacher, and induces another doctor to give him, a certificate stating that his son did not have smallpox. The sheriff was appealed to and a deputy sheriff sent out. Then I had a wire from Springfield to go down. That's the kind of mess we get into sometimes, and sometimes we get out with one black eye and sometimes with two.

Dr. Turner: In regard to these heart examinations, let me say if there is the slightest indication of any abnormal condition each child gets a special examination, when I am going over them, and there may be two or three or half a dozen youngsters that get a special examination, and that holds good in all other examinations when I find the slightest indication of some defect; then that child gets a more thorough examination.

Dr. A. A. Crooks, Peoria (in closing the discussion): First, I wish to thank the gentlemen present for their discussion. I purposely made this paper brief. I told you in the outset that if I attempted to go into this subject thoroughly it would take us around two hours to present it.

Now, the stumbling block seems to be first aid. It so happens that I was responsible for writing into the program of the city of Peoria practically all of the rules and regulations governing the health and hygiene department of the schools. And if there is any one particular feature in writing that program that I feel proudest of, it would be this: I incorporated into it the feature of getting the board of education to take out two blanket insurance policies, or indemnity policies, one covering the school children and one the personnel working for the school board. The rules and regulations run something like this: In the event of an accident occurring on the school grounds, that the principal, if he feels that the accident is serious enough to warrant the services of a physician, that he immediately get in touch with a physician of the child's choice; the family physician, in other words. If unable to secure the services of the family physician, then another legally qualified, reputable physician may be called. In other words, they may resort to the physicians' exchange and get anybody to respond. Unable to get any other legally qualified reputable physician, then the school physician comes in a third and bad last as a possibility of doing first aid work. It has worked miraculously well.

The school physician, may I tell you, has plenty of problems without going into the fields of remedial medicine or socializing the thing. I tried to tell you in my paper that we were educational, preventive and informative, and there we stopped. Anything that savored of remedial action was up to the family physician. In the event that the family is unable to secure the services of a physician—that is, if they are indigent—they are placed in the hands of some thoroughly

And may I dilate on this a moment? The principal is the only one that is permitted to do first aid work. I have repeated requests for first aid cabinets from this department and the other department. Maybe two or three in one grade school. But we are adamant in our refusal. We have only one person, and that would be the principal, who gives first aid and he is instructed at all times if, in his opinion, the accident is at all serious, to attempt no first aid whatsoever, except in the case of a bleeder to try and stanch the flow of blood until such time as the physician arrives. Now, we pay the doctor who makes that call, the first aid call. When I say we, the insurance company not only pays the bill, but we pay for the blanket policy covering such service. The same thing holds true with our personnel working for the school board, including the teachers, janitors and what not.

Now, about the annual examination of the teacher. I will put it another way. What shall we do about the health of the teacher? I tried to make myself very clear. One of the things I stated was that these teachers should be examined by some person authorized by the board of education, and certainly I don't believe that the school physician should be the one to make such a physical examination. I wouldn't put a great many hindrances in the path of such procedure, but so far as I have been able to bring it about, it is well understood by the school board that some other outside physician should best make such examination.

Now, as to the examination of these children—and I was glad to get the reactions that I did—the program varies greatly over the United States, the amount of time and the repeated efforts in the physical examination, or inspection, if you will, of the child.

Some schools, and that is particularly true of our larger cities with a million in population and up, require an annual physical examination or inspection of any school child. I think it a very worthy thing to do. I am striving toward that end in the city of Peoria today. I haven't the personnel to put that over as yet, but I hope to. And yet there is a lurking fear in the back of my head that possibly it is not just as good as it might seem on the surface, for this reason: A physical examination, after all, as I tried to tell you in the paper, is merely educational. First, to find a physical defect if any exists. But secondarily, to get the people educated to the necessity of an annual or semi-annual check-up, as the case may be, by their own family physician or dentist. And I am wondering if an annual physical check-up, where the parents look forward to that as a routine annual measure by the school physician, wouldn't kill to some extent the necessity in their mind of going to their family physician for such service.

As to the examination of those engaging in athletics, Dr. Turner's point was well taken. Of course, in any well organized school program, those children who are taking part in athletics, particularly competitive athletics, not only once a year but at the beginning of

each athletic season of baseball, basketball and football, should have a rather thorough-going examination, to detect any possible heart or other physically disqualifying defect.

Now, about the pre-school examination, a good deal has been said. I don't know that we are going to decide that point this morning. When I mention pre-school examination, I am not taking into account the infant welfare organization; not at all. I am merely including in that program the kindergarten child which is *per se* and primarily a school child. He is included in our school system as a school child the same as our first grader, and over whom I have jurisdiction, just the same as I would have over a child in any primary or high school grade. It is commendable that we are getting more and more corrective results from the activities of lay organizations in the pre-school group than was deemed possible only a short few years ago.

I thank you for the discussion.

THE CURRENT MENACES OF THE MEDICAL PROFESSION*

CHARLES J. WHALEN, M. D., LL. B.

CHICAGO

As insidious and deadly as a cancer on the vitals, is the steady growth of a persistent bureaucracy, invading malignantly the sacred domain of those principles of individual integrity and personal liberty upon which the United States was founded as a democracy and through which it has flourished far beyond the dreams of its founders.

The fattest lamb is sought by the wolf. It is inevitable that false leaders with vicious sophistries shall attempt to wreak their will against a system of individual independence that has proven itself to be the most fair and acceptable form of man-made government as yet devised. A form of government, or group control, that while permitting the largest amount of individual freedom has yet conserved to the greatest extent the freedom of others, and the community rights, would seem by all logic to boast those elements meriting meticulous husbanding and fundamental protection.

Yet as Patrick Henry said so memorably: "Eternal vigilance is the price of liberty."

Lulled into a false security by a national richness of personal life and an opulent civilization, the enemy to this beautifully developing state of altruistic existence has crept within the walls. Some of the sentries have slept at their posts.

And while these have slumbered the scientific practice of medicine has been turned into the wooden horse to hold the enemy and bear them within.

Gradually on all sides comes partial awakening to the fact that the scientific, accurate practice of the healing art is usurped by legislation; by lay dictation, and by misguided though perhaps well intentioned distribution of great wealth through ambitious philanthropists and heavily endowed foundations. As slowly but as surely as the raising and lowering of the Gatun locks, *the practice of medicine by trained minds and skilled hands of graduate physicians is being taken over by lay persons and by the political units that function in state government.*

If only the health of the nation, and per sequitur, its wealth were threatened by these procedures, the situation though pitiable would not be irremediable. Unfortunately the entire structure of the state is menaced by those very activities that now threaten both medical progress and medical adequacy.

Time brings education and civilization. All three effect expected and natural though not always beneficial nor even commendable changes. Neither church nor medicine should be allied with the state, nor under state control, yet the mechanics of both entities must possess sufficient flexibility for adaptation to the changing times. For such changes no criticism is maintained by any thinking individual. Not the change that abets but the change that destroys is to be feared or evaded.

A different system of medical education and a different system of caring for the sick is even now in process of evolution. Some way must be found that will enable the great middle class to secure at prices within its income the same excellent medical care and nursing service available now for the very rich or the very poor. This way, however, must be other than by methods of pauperization of the great middle class; of reduction of its self-respect, and of destruction of that personal reliance and independence upon which is set the very corner stone of the nation.

This attempt at pauperization and debauchery of the class of Americans that is at once the backbone and the brain as well as the heart of the nation, is the latest step in the crusade of the bureaucrats whose ultimate effect will be the

*Address before the Wayne County (Detroit) Medical Society, December, 1929.

socialization and the downfall of the United States. In this system of state medicine that it is planned to inflict upon the country, and that already has a firm foothold within the portals of the white house, the shadow of the soviet displays decided substance. Rebellion ruled Russia wept that the brutality of the chekka ran redder than that of the Romanoffs. First fell the church, then the sanctity of home, of marriage and of personal honor. In the land of the czars today there drags out an army of adolescent beings, "wild children," diseased, ignorant, ill-fed, unhoused, unclean, to bear testimony to the devilry of the infamous Kollontai teachings, of which not only the finger-hold but the solid hand-grasp is to be found this very day and hour in the Bureau of Children in the Department of Labor of the United States, teaching that abortion should be as available to any woman as a new bonnet, and marriage and divorce a matter of no more moment than choosing a summer resort or a change of hair dye. Not bluntly, as stated here, do those tenets flare forth. Rather as in the case of the warriors within the wooden horse, they creep in masked and disguised. But the sword while in the scabbard is none the less a sword.

State medicine, ambassador plenipotentiary of world wide socialism, must have a house in which to dwell, a general headquarters from which to work. *So for itself it builds a bureaucracy and sets to laboring all the dreamers and theorists, especially the semi-idle rich with no assets save their wealth, and no occupation save to spend these riches, or to indulge their sated emotions.*

From such an embryo has emanated plagues too prolific and too pestilential for endurance. Cited approximately and in blanket grouping these include the eighteenth amendment, the Harrison Drug and Narcotic act, the Sheppard-Towner act, the practice of medicine by corporations, universities and endowed foundations; lay interference in the practice of medicine; lay attempts at the practice of medicine; the over-priced and over-confident and ever-usurping trained nurse; so-called "health insurance" and "maternity provisions;" the dearth of adequate nursing service of a practical nature at a practical price; the pay clinic; encroachment of medical privilege by political job-holders, and, *saddest of all, the extinction by economic pres-*

sure of the inestimably valuable general practitioner, coupled with a general standardization of the practice of medicine.

Apart from the theft of personal privilege and independent rights from physicians as citizens and from medicine as a learned profession and as such certainly amenable to the same liberal rights of existence as is granted all business endeavors from the wholesale dry goods merchant to the humblest fishmonger, this state of affairs betokens only ill for the country. Unless the state of medical economics changes almost at once *the next two generations will find themselves facing a dearth of competent medical service and a reduction of both national health and wealth.* The United States is admittedly the medical center of the world. Persons living in this country have the best medical service at the lowest rates. The panel system knocked to bits medical service in England and in Germany. Even with the burden of the panel system on their shoulders neither the doctors of Great Britain nor Germany have had to practice medicine with such an old man of the sea on their backs as the doctors of the United States carry in the Volstead Act, the Harrison Act, and the aborted, thank God, Sheppard-Towner Act. To be sure, protagonists of socialistic maternity legislation have been trying through various bills to revive the Sheppard-Towner error.

The first crime against medicine permits Congress, in which there sit few if any physicians, to tell the medical men of the country what remedies and when and how quantitatively shall be prescribed for the sick and ailing. The Harrison Act does the same thing only a little more effectively. The Sheppard-Towner Act, along with other maternity legislation, was not responsible either directly or even indirectly for saving the lives of a dozen children, even though some \$8,000,000 of Federal money—taxpayers' money—went annually into the carrying out of this act. Of course, thousands of political appointees had out of this money some fine fat jobs and toured the country in automobiles instead of sitting at home doing a hard day's work at some more menial task. Nor is this maternity legislation the only thorn in the road. All sorts of ignorant but supposed wellfaring legislators and political job holders trip up scientific physicians in matters of muni-

cial and communal sanitation and prophylaxis and general care of the sick. But perhaps the worst menace of all is *the man or group of men of wealth who endow everything in the world connected with the practice of medicine except the physician upon whose moral integrity and professional skill rests all the responsibility.*

The modern world expects of the physician that he must be a watch dog against disease, and yet keep at his vigil without any provision for food or shelter. It is so developing that not only can a physician not act as mentor of his own existence but even societies of medical men are under pain of accepting dictation from other business groups. The medical fraternity seems to be the only group of business men against which the boycott can be used with impunity. Even his own kind grown wealthy and waxing fat will play the doctor, Brutus. University after university is taking up the practice of medicine in competition with its own alumni. Scores of newly endowed foundations are increasing the amount of the fixed minimum income at which citizens of the United States are entitled to receive free or partly free medical and surgical attention. Especially does this apply to obstetrical work, though oddly enough this beneficence in maternity cases does not extend into the realms of food, shelter or clothing.

Still another deadly fungus is the mushroom growth of a superfluous number of specialists. Some specialists are necessary and are indicated. But the modern specialist too frequently mounts this pedestal before he has done anything else. Only a thoroughly trained general practitioner has a right to know when to specialize.

Since medicine is the mouthpiece and the handmaid of the healing art it is not within the province of medicine to bewail an ill but rather to set work to diagnose and to cure.

The present economic and scientific situation in the medical profession would seem to call for drastic therapy and ruthless surgery.

The keen sharp blade of reason *demand*s an immediate severing of medical dependence from state supervision and a removal of all political adhesions. With this good job well done,—and it is surprising what a tremendous amount of legislative repeal and amendment and political job-shifting will be called for,—the profession

will at least be enabled to stand upon its own feet. The next step must be a rousing good purging of the profession of the enemies within. Men who have made vast personal fortunes and gained wide personal exploitation at the expense of the confraternity are traitors and vitiating and toxic influences and should be swept out. This done, *the cleansed medical body must knit itself together anew and tackle the problem of life, ethics and service.*

This knitting can be done best by a system of organization so perfect that it will match that of political forces. Politics has medicine by the throat and nothing deals with politics like the methods of Hahnemann. When the medical profession can show politics that it has a ballot box influence then and then only will the medical profession, its necessities or its rights, have a particle of standing with politicians and with big business. Until then medicine will have to take what it can get. Right along the medical profession has been getting plenty of what nobody wants and of what nobody else would have. Not even interstate commerce laws, nor pure food legislation puts the restriction and the ban upon business as some of the national and state laws hamper medicine. In the university-practicing medicine ramification there is a situation worse than if the factory opened chain stores in the same block with the retail merchant and expected him to survive. For in the one only a matter of money profit and individual existence is involved. In the other the question is that of community welfare and public health.

Figures compiled for the years 1925-1927 show that in sixteen states that had the Sheppard-Towner Act to face, maternal and infant mortality was not reduced proportionately to the decrease in the five states that did not cooperate. Illinois, Connecticut, Kansas, Maine and Massachusetts, commonwealths that did not function under the Sheppard-Towner Act, had the greatest decrease in infant and maternal rates.

The Achilles heel of the medical situation today from the standpoint of the fraternity is the high cost of medical education. Plans are now under discussion where a man need not use up so much of his youth and so much of his wage earning credit power in preparation for the simpler branches of medical practice. As it is now it costs about \$30,000 and a man will be at least

27 years old before he is able to hang out his shingle. Without reducing professional competency some shift must be made to lower initial educational cost.

This, however, can not come from any system of state medicine as yet invented. State medicine is like mercy on a reverse reel. It pauperizes those who give and those who take. It is iniquitous, non-American, specious and without merit or excuse. Rotten to the core in its begetting and its inspiration, if ever the veil is torn squarely aside from its sanctuaries, practical Americans will find themselves confronting a scandal such as will leave the Teapot Dome trouble nothing but a mirage on the landscape.

The worst of it is that these poor reformers think in their hearts that they are doing something. They are, but not what they think they are doing. Their efforts instead of being constructive are an insidious but lethal destructive force.

In addition to the lack of organization among the profession and a laissez-faire attitude towards fraternal defenses, count must be made of the lack of human interest displayed by many physicians in trivial ills that literally clear the way for those hordes of charlatans and quacks that offer a spring board for state medicine's installation. The chiropractor and the rest of the fakes have always an open empty ear for patient's troubles and they wind up with filled palms and purses and an ever steady visitor willing to pay. The physician's conscience refuses to let him take money like that. He may not feel like encouraging an illusion of illness, but what he does need to know is how to get the psychological hold on his patient, called "the art of medicine," in which the quack specializes. Both "get the money" and "get the patient" is the quack's ideal of ethics.

With the honest physician this ideal is get the patient and cure the disease. But you can't catch a fish by striking it over the head. He has to be baited. And it requires the practical application of this art of medicine to learn enough about a man to find out really what is the matter with him. Which is why the University of California, of Wisconsin and Harvard University Medical School eye with favor a modified revival of the ante-medical college idea of apprenticing medical students to practicing medical men. This

would seem to be an initial and commendable effort to re-establish that human relationship between physician and patient that has become submerged in the flood of specialization upon which has floated into the public confidence the flotsam and jetsam of economic iniquities masquerading as philanthropist and humanities. Those iniquities have knocked from under the very foundations of understanding and confidential relationship between doctor and patient. They have laid open the gullible laity to all sorts of socialistic, incompetent and unethical schemes, and a standardized product of medicine functioning with a machine-like uniformity that not only loses sight of the very essence of efficient medical practice but actually works towards the destruction of such fundamental competency. *Mass treatment of the sick is an impossibility and an error of a grievous, unethical, in fact almost criminal nature.* Nor is a medical mistake a mistake capable of rectification. *Corporations are and can be everything but human. A corporation has neither a conscience to guide, a body to kick nor a soul to save. When medicine becomes corporate, medicine becomes a corpse.*

The United States of America is well on its way to that state of affairs that precipitated the French Revolution. We are now beset by more laws and laws about laws than was even pre-war Europe. Unless this present tendency is checked the whirlwind sowed will become the whirlwind reaped. *Already state medicine sits enthroned in some guise or other in every state in the Union.*

Briefly epitomized the essentials of state medicine are:

1. Complete control of the medical organization, and profession by the Federal government with every man in the organization on a salary basis.
2. Control of all medical schools by a Federal Medical Education Bureau. Medical students receiving tuition and maintenance free, and medical research controlled by the medical research bureau.
3. Government control of hospitals and greater emphasis laid on the hospital training of students.
4. Abolition of the private office of physi-

ciaus, and establishment of a clinical group of specialists.

5. Uniform distribution of work and adequate medical attention regardless of means for every resident of the United States.

It will be observed that in such a fantastic and impossible would-be Utopia, all personal choice of a physician is denied the patient. It means medical practice politicalized. And the opposition of the American Medical Association to this form of medical practice is based upon a visioning of the ultimate harm that will come to the public weal through such form of medical practice, and with the practice of medicine handicapped, hampered, controlled or interfered with by political organizations supported by taxation or individuals thus empowered, except of course the service provided for the Army and Navy and the prophylactic Public Health Service.

This tendency to paternalism, working with medicine as its mouthpiece, has been characterized by the Hon. James Reed, once Senator from Missouri as "A saturnalia of federal law-making," and contempt for the maxim "that people is best governed which is governed least" and a burial of this adage under a mass of statutes seeking to control, regulate or coerce almost every activity of man at a staggering price to the taxpayers of a useless force of inadequate enforcement officers."

In addition to bleeding the country dry to make it miserable, the emissaries of the new paternalism being forced down the throats of the American people are naive in their extension of power. Daily through these efforts the cost of government becomes more unbearable. So far back as 1922, Senator Stanley in the United States Senate announced that there were 15,000,000 pensioners on the public bounty or a tax eater on the back of every two tax producers in the United States, a number that has increased every year at an alarming rate. *"Too many functions of local and state governments," said Mr. Stanley, "and also of the courts are controlled by hidden bureaus in Washington. There is more power exercised to-day in these marble sarcophagi, by unknown experts, politically controlled appointees of whispering propaganda than by the courts themselves."*

Five years ago the late President Eliot of Harvard University in deploring this tendency

remarked, *"The new blight affecting education and industries in the United States is standardization."*

This practice of putting large discretionary powers at the disposal of political authorities has run wild without a curb. This tendency to assert authority is nowhere more rampant than in the statute backed attempts to control the practice of medicine. Unfortunately medical men do not see the trend of affairs. *Not only is state medicine at the door, and the encroaching pay clinic making its inroad upon individual liberty and progress, but with state medicine comes the greatest socialistic attack ever made upon this democracy.* In 1926, there were introduced 93,000 new laws, practically all of which tended to give the American people a mess of pottage for their inalienable birthright of personal liberty. *"Please pass a law" has become the national idea of a panacea for all economic ills. To repeal rather than to make new laws should be the idea of the hour. And among the first laws to be repealed should be those that make a martyr out of the practice of medicine by delivering this sacred science into the hands of the ignorant laity. No less a statesman than Calvin Coolidge says, "Unless bureaucracy is constantly resisted it breaks down representative government and overwhelms democracy. Of all forms of government those administered by bureaus are about the least satisfactory to an enlightened and progressive people."*

The Committee on American citizenship of the American Bar Association went on record with the report that "The old virile spirit of the American citizen is waning to extinction. The American citizen is being pauperized by government alms. *The time is coming when through overcentralization in Washington, the bill of rights will become a mere scrap of paper, and this government will come as all other democracies have come, to be a mere centralized despotism."*

Why should such opinions be cited as the current menaces of the medical profession?

BECAUSE MEDICINE IS BEING USED AS THE CATSPA W TO PULL THE CHESTNUTS OUT OF THE FIRE FOR THE SOCIALISTS AND COMMUNISTS OF THE WORLD.

The Russian wheat scandal is nothing to the

attacks on democracy—not soviet tyranny—that the socialists are attempting to perpetrate through the debauching by legislative enslavement of the practice of medicine.

America is the stronghold of civilization. With America communized the world chaos that is the heart's desire of the red element would be an assured thing. *And it is through specious sophistries of economic relief, to be worked in some magical way through the destruction of the medical profession and its progress, that the wedge is being driven home.*

Why pick on medicine? Why not the steel or textile industries? Or shoes, plumbing, groceries, hay and feed, stone, brick or mortar? Ay, there's the rub. The human element in medicine with its cortical appeal to the emotions and to those elements in life that money cannot purchase nor barter and exchange touch, *makes this branch of civilized life the weakest as well as the strongest link.* Socialism and the church openly at sword's points afford no break in the defense. The law is too cold-blooded, too logical to brook the siren call of "help humanity." Medicine then is the logical and the inevitable port of entry, and medicine, God save the mark, has been only too gullible. *Mock economic measures have blinded the eyes of the profession as a whole, and almost to a man.*

"A law by which an unschooled legislature dictates to the science of medicine and takes from a scholar his brains cannot be in consonance with liberty." Yet look at the quantity of such statutes on the books today. John Stuart Mill wrote, "Liberty is limitation on power. Whenever a limitation set by the people for the restraint of government is removed, their liberty is lost." Wrote Lord Acton, "By Liberty I mean the assurance that every man shall be protected in doing what he believes is his duty against the influence of authority and majority, custom and opinion."

Medicine has not only lost its liberty but it has been delivered unto a body of lawmakers, ruthlessly stripped of the powers which gave it its inherent value. As a result everybody but the doctor seems to know and to presume all about "doctoring." Openly and covertly, nationally organized forces are at work to abridge the functions and usefulness of the medical profession. Their participation in politics and their

assault on the scientific value of modern medicine is undoubtedly the greatest menace confronting the American people as well as medicine because in this is involved both natural rights and constitutional guarantees, the violation of which strikes at the very foundation of national security.

Now diagnosis is the first element to be considered in the handling of a plague. Further, correct diagnosis is more than half the cure. When the medical profession realizes what a cat-paw is being made of its science, its traditions and its tenets, then the medical profession will take seriously to heart this diagnosis.

From the findings that have been outlined here, technic and procedure would seem to indicate numerous obvious measures. *First, organization on the part of the medical profession, for no axiom ever held through the years with more tenacity, or greater adequacy than that in "Union there is strength."*

Since the advances of socialization and the infliction of standardization are being effected by statute, then only by statute can this menace be removed. Fire must be fought with fire. And no one doctor, no one medical group or medical society can fight the menacing influences organized to the nth degree and effecting as much that is dire by insidious as by open methods. This indicated warfare calls for mass action. It calls for an organized medical strength, a medical strength that shall stoop to conquer and in the stooping make use of those same efficient, organized measures as is developing the paternalistic, bureaucratic and socialist bloc into a greater power than the individual votes of tax-paying, law-abiding, wage earning citizens who make up the far greater majority of our people.

Now the way to this organization must come from the individual. It means that each physician of ethical standards must liberally put his hand to the plow. *He cannot sit back and think that medicine by divine right of science can take care of itself.* It means that the individual physician must look to his community medical society,—a branch of the county, state and national organization,—as a sword with which to devastate the menace of lay and political organizations. It means a banding together to use the ballot box as a weapon to drive home the fact that medical men are not a group of

blind fogies penned in laboratories, wrapped round with theories, but men who are alert to the changing times, the various humanities, and, above all, economic entities that have the same rights from a civic standpoint as the man who vends vegetables, sells living commodities or provides shelter or transportation.

Further, not only is medicine a daily necessity that should be as safeguarded as is the vested right and dignity of finance and commerce but its administrators deserve the same consideration at the hands of the public as is granted the administrators of law, religion, the church, the state and trade. Medicine, secure in its dignity and in its inherent virtue, has bestowed upon those whom it serves the grace of the same fine consideration as it has extended. In this, medicine has erred. It is still impossible to put a quart of milk into a pint cup. The general public has so drifted away from even a partial comprehension of the service medicine dispenses as to have lost sight of the needs of medicine and of the tithe that is Caesar's. From this has arisen one of the secondary ills that is the matter with medicine today. Education and education alone extended with all patience is the remedy indicated here.

In no place is the need for such education greater than among the ranks of the philanthropically inclined wealthy men, who are endowing on every hand foundations calculated to socialize medicine, though such socialization is masked by what seems to be humanitarian ideas on the part of these philanthropic rich. Blinded by the dazzling altruism that they have been persuaded to believe they are participating in, these men are unable to see the holocaust they are kindling. With medicine socialized, the fires will not stop but will spread until they cannot be stopped. Medicine gone socialistic, what will follow? Trade will be caught up in the conflagration. Industry after industry will be doling out its wares without compensation, and every trade and every profession will be hoist by the same petard. Socialism, like syphilis, is the same, no matter what euphemistic title be bestowed. Those men who have no scruples about socializing the other fellow's trade, industry or profession should remember that bread cast upon the waters usually returns. And mouldy bread is not a pleasant come-back. The swing of the pendu-

lum will bring back this socialization stunt and the query propounded to these gentlemen who socialize medicine with gusto should be, "What are you going to do when socialism gets you?"

Gentlemen, too much paternalism in a mask is the vital ailment of the medical profession today. Cincinnatus at his plow had no greater task before him than you have to head off the numerous menaces to scientific medical progress and economic stability. The thing to do for the sake of yourselves, your science, your profession, your public, and your patriotism is to get out and fight and conquer.

25 East Washington St.

DOMESTIC MECHANICAL REFRIGERATION IN RELATION TO PUBLIC HEALTH*

ARNOLD H. KEGEL, M. D.

Commissioner of Health

CHICAGO

The growing and very real need of effective refrigeration for the purpose of preserving foods and other perishable materials has led to the development of mechanical refrigeration as an improved and more economical substitute for older and less efficient methods. The evolution of the mechanical features of these devices has been unusually rapid especially in the types used for domestic purposes, most of which at present depend on the principle of alternate expansion and compression of fluid substances.

Unfortunately, however, in the search for new and more economical chemicals to meet the demands of the industry, the possible health hazards involved in their general use have often been ignored.

In the City of Chicago, during the latter part of 1928 and throughout 1929, a series of mysterious intoxications occurred, which in most cases were at first considered food poisonings but which finally aroused suspicion against the gases used in mechanical refrigeration. That these refrigerant gases were the true source of the trouble was verified by subsequent clinical and laboratory studies made by the Health Department. Sixty-two cases of poisoning and 10 deaths were found to have been caused by an escaping refrigerant gas known as methyl chloride.

*Read before Illinois State Medical Meeting, Section on Public Health and Hygiene, May 22, 1930.

The principle upon which this type of mechanical refrigeration depends is the dissipation of heat by compression of a gas to a liquid state, and the absorption of heat by expansion of the compressed liquid to a gas in an enclosed chamber called an "evaporator."

Two forms of mechanical refrigeration are in general use for domestic purposes: the single unit type in which the compressor and evaporator are incorporated in each individual cooling cabinet, and the multiple type in which the compressing apparatus is installed at a central point, usually in the basement, from which the liquid is conducted through pipes to a number of cooling cabinets throughout the building.

As yet no serious casualties have been traced to the single unit type in Chicago, but all have occurred in connection with multiple systems using methyl chloride. The single unit seldom requires more than five pounds of gas altogether, while the multiple system may utilize 200 or more pounds of gas. Thus, a leak occurring in an apartment connected with a multiple system may subject the apartment to a flood of gas, lasting until practically the entire fluid contents of the system are discharged.

The gases used in mechanical refrigeration are of two groups: 1, the irritant group, in which are included ammonia and sulphur dioxide, and 2, the anesthetic group, of which the commoner are methyl chloride and ethyl chloride. Experience has shown that when gases of the highly irritant type are released in an apartment under ordinary circumstances, the occupants are warned in time to escape, though the potential danger of overwhelming concentrations must be considered. On the other hand, gases of the anesthetic group do not generally give warning of their presence and hence may cause unconsciousness and even death on prolonged exposure. These latter gases are generally odorless and not easily detected in small amounts. It is admitted that all refrigerants heretofore used in mechanical refrigerating systems are of poisonous nature, so the necessity of proper regulation to establish safe practice in the installation of mechanical refrigeration is apparent.

The refrigeration industry realizes that domestic refrigeration cannot attain its full possibilities unless it can guarantee a safe as well as efficient installation. To obtain such safe in-

stallation it is highly important that all systems be properly inspected before actually put into use. This inspection should be made with the ultimate object of preventing the refrigerant gas from escaping into the living quarters.

With regard to the location of leaks, 49 cases investigated by the Chicago Department of Health yielded the following percentages:

In and around the evaporator.....	68%
In and around the compressor.....	20%
In the piping system.....	6%
In other locations.....	6%
	<hr/> 100%

In the cases where deaths occurred, the leaks were all found in and around the evaporator, including the pipes leading to and from the evaporator as far as the wall connections. It was also found that failure to anchor the refrigerator cabinet was often a factor in producing leaks.

The refrigerating system should be constructed in such a manner that the necessary pressure tests to detect leaks can be readily applied and with the least inconvenience to the occupants. All poisonous or toxic refrigerant gases used in any "direct indirect" systems of refrigeration should have a distinct and easily recognizable odor or characteristic irritating properties in the minimum concentration in air at which they are poisonous to experimental animals, after at least 12 hours' exposure.

The evaporator should be of heavy metal with welded joints to prevent damage by the use of ice picks. The compressor should be placed in an uninhabited part of the building, and the room containing the compressor should have tight walls, with no communication to other parts of the building, and ventilated to the outside.

The foregoing suggestions are some of the essentials of safe installation and are directed toward the reduction of health hazards. All refrigerating plants circulating substances of a poisonous nature should be inspected regularly to safeguard public health, and their manufacture and sale should be regulated. The requirements should be sufficiently flexible to encourage improvement and development of apparatus rather than restrict it, to the end that it may be made as simple, efficient and economical of operation as is consistent with public safety.

DISCUSSION

Mr. Joel I. Connolly, Chicago: The importance of proper control over health aspects of mechanical refrigeration in the home should be particularly emphasized. Dr. Kegel has pointed out that ten deaths occurred in Chicago within the period of one year from methyl chloride poisoning due to leaks in multiple refrigerating systems. Relatively few people, in comparison with the total population of the city, are exposed to this danger, so the death rate is much higher among those so exposed, than would be the case with ten deaths from disease in this city.

Even the irritant types of gaseous refrigerants are not harmless, as might perhaps be erroneously inferred from a hasty reading of Dr. Kegel's reference to them, for people have been overcome and, except for heroic rescues followed by use of artificial respiration, more deaths unquestionably would have occurred. It has not been possible to obtain a complete record of all poisonings and of all people who have been overcome by refrigerant gases in Chicago, but they are estimated conservatively to number about three hundred. Not infrequently whole families have been overcome and have been rescued by neighbors, police or firemen, and numerous cases have occurred where all the occupants of large apartment buildings, comprising many families, have been driven out of their homes in the dead of night, often with no clothing other than their night-dresses or pajamas.

The use of an irritant detector gas mixed with one of the anesthetic type has been found to be ineffective upon one recent occasion.

Many times the question is asked, "Why has this trouble occurred in Chicago more than elsewhere?"

The answer lies in the fact that Chicago is the only city having large numbers of huge machines holding great quantities of refrigerants, located in dwelling places. New York and Chicago are the only cities having many large apartment buildings where it might be possible to use enormous multiple systems equipped with scores or hundreds of evaporators to serve as many apartments. Such systems have not been permitted above the first floor in New York under the fire ordinance. In Chicago there was no such fire regulation, so the local refrigeration interests naturally gravitated to the use of the less expensive multiple type of system instead of to the more costly single unit type. All of the deaths and most of the accidents have resulted from leaks in the multiple systems, so control measures of necessity must be directed chiefly towards making this type safe, which usually means also making multiple systems somewhat more expensive. Because the Chicago domestic refrigeration industry is based almost entirely upon the large multiple system, any ordinance to control such refrigeration is opposed by the local representatives on the ground that Chicago interests would be sacrificed to those of outsiders by its enactment. The delay in passing a control ordinance in Chicago may be ascribed in part to this state of affairs, and it is safe to say that with things as they are,

a continuation of accidents must be expected until proper control is exercised.

In closing, I wish to say that Dr. Kegel, the author of this paper, has been the foremost exponent of safety for health in mechanical refrigeration and although the desired action upon an ordinance proposed by him is still lagging in Chicago, due to the peculiar conditions I have just mentioned, other cities, notably Washington, D. C., have followed his advice and adopted ordinances embodying his ideas. I wish to congratulate the Illinois State Medical Society upon securing a paper upon this timely and important subject from the one man who has done more than any one else to make domestic refrigeration safe throughout America.

Dr. Charles H. Miller, Chicago: I would like to state a word relative to the symptomatology of the poisoning by methyl chloride. It came under my observation early in these poisoning cases in Chicago. While this has related to the danger to the inhabitants of domestic domiciles, that is not the only place where poisoning has occurred. In fact, the first case that came under my observation was one of the operators in the manufacture of this refrigerating apparatus. A young man was an employe among a number of others in whom ultimately some half dozen cases of poisoning occurred, in the manufacture of these pieces of apparatus.

Now, this young man, about 20 years of age, gave a history of gradually losing his normal strength and vitality. He said: "I would go to work in the morning all right but along towards evening I would become excessively weary, out of all proportion to what I had been doing, and when I would get home it would just seem as though I couldn't do anything but sit down in a chair. I could no longer go." He emphasized another symptom of disturbance of his vision. He wore glasses for some refractive error. He said, "Sometimes I can see and at other times I can't."

Then his mother with whom he made his home added to his symptomatology, and it was to the effect that at times he wasn't quite rational, that he was just a little bit irrational. He kept on working and finally he got to a point where he couldn't work. Now up to this time it was scouted by his employers, the manufacturers of this particular mechanism, all of whom have been for a long time clients of mine; they couldn't believe that that had a thing to do with it, though it was considered. Nobody knew what the symptoms were. This boy got so bad that we took him to the hospital and I had a celebrated neurologist see him and he missed the nature of the case entirely. This boy in the hospital days after he laid off from work would rise in the night and be so disoriented that the nurse would find him crawling around under the bed looking for something that he imagined was there. It took that boy three months to recover from repeated slight multiple exposures to this methyl chloride.

Later I came to some of these other cases in the same place and then the employers were so well informed as to the symptomatology that there was no question in their minds that that was the cause.

Then in these cases of central refrigerating units I had this experience: I was called early in the morning to a home consisting of a five-room apartment with a husband, wife and four children, all relatively small children. The whole family were made ill, acutely ill, through an escape of the gas in their refrigerator. That something was wrong was detected as early as three or four o'clock in the morning; the mother was violently ill, with nausea and vomiting, the children the same way; and the husband got up, and they wandered around in their apartment and they couldn't understand why they were all sick. And it was not until daylight, perhaps three hours later, that the source of the escaping gas was detected by opening the refrigerator. These individuals with a single exposure to a single poison were not disoriented at all. They recovered in a short time from this acute gastrointestinal irritant poison.

But the repeated exposure to this produces a symptom complex which fooled a very good neurologist in Chicago because he had never seen a case like it.

THE WORK OF THE SCHOOL TUBERCULOSIS PHYSICIAN IN CHICAGO

FREDERICK LEAVITT, M. D.
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The following statements are based on the extensive observations of many eminent writers: The child is born free from tuberculosis. From 50 to 100 per cent of all civilized people acquire tuberculosis. The young are most susceptible (33.33 per cent having acquired the disease by the time they are two years old). The younger the individual to become infected, the more likely is he to succumb to the disease.

In the child lies the hope of the future. One might go further and say that in the unborn child lies the hope of the future. But inasmuch as prenatal influence, other than that of heredity, is doubtful, we shall be content to consider the child only after he is born, as he comes to the school physician for physical appraisal, his tendencies and proclivities left out of the question. It may be the first time a doctor has seen him. When he arrived in this "blue heaven" of ours a midwife, perchance, started him in life with a smart slap, which is as far as he has gone in the mysteries of the healing art, except, perhaps, to have swallowed a dose or two of castor oil or to have had his chest anointed with goose grease. We now go over him to see how nearly he comes to the standards laid down for a child of five or six years of age.

Poor kid! In some ways, he is to be pitied. He must sometimes wonder what it is all about. Father, mother, grandparents, uncles, aunts, all take a hand in his development. Indeed, no one appears to lose an opportunity to say or do something for his best good, always of course with the kindest of intentions. I often marvel at his invulnerability. "Doesn't it make the child feel bad," I once asked a physician, "to speak harshly to him?" "Oh, no," replied the doctor. "He's used to it." After all, it may be the only way to get under the boy's skin—to flay him. We scratch him pleasantly on the arm and for years, possibly all his life, he remains proof against smallpox. We introduce some drops just as easily into his system and away goes the fear of diphtheria. Would it not be a godsend if we could plant other things, character, for instance, in some such way? But the thought is a digression; it is the child's health that concerns us.

For a number of years the physical examination of school children in Chicago has been supported by the city through its tuberculosis sanitarium, the department of health undertaking the supervision of the physicians and nurses doing the work. With the opening of school, 1923, fifty physicians and as many nurses, selected through competitive examination and regulated by civil service, were employed. The object was not merely to find defects among children, but to urge their correction when found. To get a child "up in the air," to employ an aeronautic term, without helping him to make a safe landing, would be a waste of time, money and energy.

The work at first was among children who had been several years in school. This was found to be somewhat late in the child's life to call attention to his imperfections. Their presence had already wrought harm. So it was thought better to begin earlier, when, for obvious reasons, a more thorough examination might be made. The past four years' experience has proven the worth of our present methods.

As far as one is able, without the employment of special instruments, the child, with his upper clothing removed, is examined from the top of his head to his girdle. The feet, with shoes off, are also examined. Every anomaly and every abnormality is observed and the findings record-

ed. If a remediable defect, one that may hamper the child in any way, is found, a letter is sent to the parents or guardian calling attention to the fact, with the suggestion that the family physician or dentist be consulted. It is further urged upon the child's elders that as soon as a correction is made or treatment is begun that word from the doctor or dentist to that effect be transmitted to the nurse for endorsement on the individual's card. If, as occasionally happens, parents do not give such notices sufficient consideration or, possibly, ignore them altogether, the assisting nurse makes a home-call and in a tactful way discusses with the mother the desirability of having the teeth looked after, the tonsils removed, or whatever it is that has been found at fault, corrected. It isn't as if something was advised which could not be carried out. If the family is without funds, ways and means are suggested whereby the necessary treatment may be had without cost.

The difficulty to be overcome, in the matter of getting defects corrected, is quite as much one of conviction as it is of impecuniosity. Parents cannot understand how these slight—to them—abnormalities can endanger the child's health or even hamper his progress. Various methods have been devised and tried in the hope of awakening interest and developing understanding. One plan that proved fairly successful sought to reach the fathers and mothers through their children. Lists were posted in school rooms setting forth the physical perfections, as well as imperfections, of its various members. It was believed that the child, carrying the information home, might stimulate the parents' pride and interest to the extent of obtaining for their child the gold star set opposite the names of those whose defects had been corrected. The scheme worked well in schools where the teacher and nurse were assiduously persistent. Intensive periodic campaigns along this line should be worth trying. Might call them "Physical Correction Weeks." The Mothers' Conference, the purpose of which is to get the parent to witness the procedure of examination and to talk over with her the importance of remedial measures, is another method designed to meet the same needs, and is to some extent still carried on throughout the city. These con-

ferences can never be very well attended, for mothers find it exceedingly difficult sometimes to leave their own cares and responsibilities at home.

Every physician has his own opinion as to what constitutes a defect. In our own group we are constantly conferring with one another, yet we are not always in accord. It isn't human that we should be. Each views what he sees from a slightly different angle. If we "slip up" occasionally, and mark a child down for something his own physician says he does not have, it is not because we lack instruction, but rather because of this varying viewpoint. To say that we are not qualified to judge is, to put it mildly, hardly fair. Whether the tonsils should be removed or whether the teeth need to be filled, is another matter. Our function is to find out what is wrong and, if possible, get it fixed. If the family doctor or dentist says the tonsils and teeth are all right, his statement is made a part of our records and, right or wrong, remains authoritative. If, however, no such statement is brought back to us, the child is re-inspected later and another appeal made to have the defect remedied.

Back of it all is the idea of fortifying the child with good health, of building up his resistance, especially his resistance to tuberculosis. If he is already infected with the disease, we aim to find it out early and give him every opportunity to fight it off. If he is otherwise healthy, yet has enlarged or diseased tonsils, bad teeth, or other hampering defect, we reason that he may become still healthier and stronger if these imperfections are removed.

All children are said to be tuberculous. We do not necessarily brand them as such, but when we find one who is undernourished, or is below weight, or has large lymphatic glands, we make a special report of our findings to the Sanitarium which in turn sees that the child is kept under observation and from time to time re-examined.

His physical defects corrected, better sanitation in the home, more sunshine, a freer use of water, outside as well as inside the body, and plenty of wholesome air to breathe, these are the things to make the child what he should be, what every child has a right to be—healthy. As President Hoover has so well expressed it, "we

need to know, through visual testimony, and in scientific fact the child that nature, working at her best, intended. We need described, in terms that fathers and mothers can understand, the child whose organs are functioning efficiently, whose growth is progressing unimpeded, whose senses are developed unhampered, and whose potentialities are realized, mentally, morally, and physically."

5813 S. Troy St.

PHYSICAL DIAGNOSIS*

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This paper, on a very commonplace and old-fashioned subject, is the result of reflection over my experience of nearly twenty years of teaching physical diagnosis. Naturally in that time I have had opportunities of watching not only students, but internes, consultants, fellow practitioners and myself making mistakes in diagnosis. I want to present to you this afternoon the result of my experience in this subject. I want, in short, to summarize the main reasons why, in my opinion, people make mistakes in diagnosis.

I say mistakes in diagnosis, not physical diagnosis, because in my experience most mistakes that are made in diagnosis are made *not* because some laboratory examination has been neglected or has been made incorrectly, but because enough time was not spent upon the history and the physical examination of the patient.

The real anchor of a diagnosis procedure is the combination of history and physical examination. These hold you, as an anchor does, to reality. What the patient tells you first, and second what you can see and feel and hear—these things are what determine not only your opinion of the nature of his trouble but also what you are going to do about it—your therapeutics.

I have frequently been called into consultation in a small town to find the physician in a great state of perturbation because he was meeting a city consultant and had not carried out some mechanical procedure he thinks the city

consultant must have. "You know we can't get an electrocardiograph here." "I'm terribly sorry I haven't made a Wassermann test." "You'll probably want to know her basal metabolism, but I haven't got it." Nonsense! These things are of little importance—what do these machines tell us that we cannot find out much better by using our own wits? I confess to having learned a great deal from them: for instance, I studied the principles of electrocardiography and learned much about the heart's action in health and disease. But the most valuable thing the study of electrocardiographs taught me was to incorporate this knowledge into my routine physical examination. To transfer it into terms that could be applied to the palpation of the pulse. I think every mechanical device teaches us something—but the man who does not learn its lessons and learn to free himself from the device—who does not teach his eyes and ears and his fingers to do what the machine does—has not learned its most important lesson.

I tell my students in physical diagnosis that it is the most important subject in their curriculum for three reasons:

First, because it is diagnosis by their own senses. The instruments of physical diagnosis you will always have with you—your fingers, your eyes and your ears. If you were cast up naked on a desert island, you could still be the scientific medicine man of the native tribe provided you were a skillful physical diagnostician.

Second, because it is an art, not a science. It is an applied art. Naturally so—it is the education of your senses to do a certain thing. To an art there is no end. You will always be learning something about physical diagnosis. You will never be perfect. It is the one thing you can never turn over to an assistant. Any more than Paderewski could turn over his piano to an assistant, for a recital. You will always have to practice. Just as Paderewski always had to practice.

*Third, because everything you ever learn—*about anatomy, physiology, pathology, symptomatology, chemistry, bacteriology—will make a better physical diagnostician of you. Everything you can learn will train your mind to direct your fingers and your eyes and your ears. Anybody can learn to do a mechanical procedure

*Read before Illinois State Medical Meeting, Section on Medicine, May 20, 1930.

—and in a short time do it just as accurately as the most experienced. A twenty-year-old girl in the laboratory of your hospital can probably make a good deal more accurate blood count than William Osler could have made. And a blood count or an entire set of laboratory examinations has a corresponding importance in a diagnostic procedure. The knowledge of how to do a laboratory examination has no source of growth: it is not alive. Your knowledge of physical diagnosis should be alive, it should grow with every patient you see, every paper you hear at a medical society, every article or book you read.

With this preliminary let us now consider the causes of mistakes in physical diagnosis which are most frequently met and which are the most disastrous. They are five:

The first is the finding of physical signs which are not present. By all odds the most frequent and most disastrous cause of mistakes in a physical examination! *Not*, mind you, the failure to find signs that are present. Everybody is afraid of that. Everybody has been warned against that. Everybody is in deadly fear that some later examiner will detect some sign they have missed. But such mistakes of omission are not very serious.

It is the over-industrious or over-alert, or over-conscientious fellow who finds a heart murmur in a normal heart, or a rale in a normal chest, or an enlarged spleen which is not there, who gets the patient into trouble. Because then the fellow with the murmur is turned down for life insurance and goes on and lives thirty years, during which time he could and should have had protection. Or the fellow with the rale is uprooted from his business and sent to a sanitarium for a year to heal a tuberculosis that never was. (I wonder how many thousands of times that has happened in the past few years—how many million years of human life doctors have wasted this way). And the fellow with the big spleen is made melancholy and goes home to await the development of a leukemia which does not arrive—so he changes doctors.

Oh! These things are disastrous all right. In more ways than one. A particular case I saw last year comes to mind. A patient had an intermittent heart block for which no cause could be

found. She had a negative Wassermann. The surgeon said she had very bad pus tubes and infected ovaries. After a bed rest period the physician thought her heart was in good enough shape to stand the removal of the infected organs in the pelvis. It was thought this pelvic infection might be the cause of the heart block. But when she was opened up, the tubes and ovaries were as movable and free from evidences of inflammation as even the most hardened gynecologist could wish. But the operation—based, you see, on finding physical signs which were not present—threw her back into a state of decompensation from which it took six months to recover.

The most fatal fact about finding a sign that is not present is that you are committed to something. Either at the autopsy or at the operation or in the future.

Why do we make these mistakes so frequently? There are several reasons. First, I think, is lack of self-assurance. There is a funny sound there—maybe it's a murmur—better call it a murmur. You see, the fellow who thinks that way does not really know a murmur when he hears it. He never got acquainted with real murmurs. The second reason, I suspect, is that we are afraid somebody else—one of our rivals—will find a sign we have missed. So we beat the rival to it by finding all the signs there are. It takes just as much courage to say "no" as to say "yes." And judgment, too. Thirdly, the patient leads us astray. He has so many symptoms that we feel we must discover something to account for them. Is it possible for a person to be fatigued as this patient claims to be and have no tuberculosis? Or that dreadful pain in the abdomen—one hardly has the face to say that there is not only no tumor but not even any rigidity there, does one?

Think this item over carefully. See if you do not agree with me that this is the most frequent cause of serious mistakes in diagnosis.

Second, the second most frequent cause of mistakes in diagnosis is to accept someone else's word for an essential part of the examination.

I can tell a story to illustrate this. A little girl began to run a temperature. She was taken to a hospital where all sorts of examinations were made. Everything was found normal, so it

was decided she had otitis media. And the ear drum was opened. But the temperature did not come down. Finally a specialist came from a distant city. But before he decided to operate he inquired into the condition of the urine. The laboratory had reported on five specimens—all normal. But when the consultant from the distant city looked at a specimen himself he found it was loaded with pus. Even a catheterized specimen had pus. The baby had pyelitis. But if somebody besides the laboratory technician had not looked—*just looked*, you see, no complicated technical, chemical procedure — at the urine, the mastoids would have been cut wide open.

That is an example of making a mistake by letting someone else make an essential part of the examination for you. A urine examination is always an essential part of an examination.

Third—depending on doubtful methods. I have known many hopeful young diagnosticians who have become obsessed with some queer method of diagnosis they have heard about and who pin great results on it.

I will refer to two of these. Both are strictly in the field of physical diagnosis. One is the attempt to outline the size of the heart and aorta by percussion. It can not be done. Anyone who attempts to outline the heart or aorta by percussion will make a gross error in over 75% of his deductions. This has been demonstrated over and over by the comparison of percussion markings and x-ray plates. Why then try it at all? We can determine the apex beat of the heart by palpation and inspection with less than 10% of error. That is the only determination of the heart's size we can make by physical diagnosis. For the rest we must depend on the x-ray. Let us acknowledge it and do it. At any cost, whether it tell us much or little, let us have the method we use all wool and a yard wide.

Another instance is the use of the percussion of Kronig's isthmus for the diagnosis of tuberculosis. In the first place, not one out of a hundred men can ever learn to be an accurate percusser. Not one out of a hundred men can ever learn to be a sufficiently accurate percusser to outline Kronig's isthmus. Even when accurately outlined its significance is very doubtful. Yet we have tuberculosis specialists solemnly hammering away in order to record this thoroughly

unreliable fact, teaching others to do the same. As an example of the way an experienced diagnostician depends on nothing but dependable methods, contrast the five diagnostic criteria Dr. Lawrence Brown set up for a diagnosis of tuberculosis. The diagnosis of tuberculosis can not be made, he says, unless some of the following five things are present:

1. History of hemoptysis.
2. History of pleural effusion.
3. Tubercle bacilli in the sputum.
4. Rales on auscultation.
5. Spots of tubercle in the x-ray.

Look that list over. Every one of them solid to the bone.

Think of that and think of all the fine-haired methods the average tuberculosis expert dilates upon. Dr. Brown has even left out temperature, history of loss of weight, fatigue, and cough. All those things may be deceptive. In physical diagnosis the only sign he depends on is the rale. That is the result of a long experience and the discarding of all less dependable methods.

The same thing applies with equal force to other fields—the doubtful value of liver function tests, the interpretation of linear lines (the fan) on the x-ray plate as indicative of pulmonary tuberculosis, the non-specificity of skin tests for food hypersensitiveness—etc., etc. Here I mention only physical signs.

Fourth—making a local, not an inclusive examination.

This is a little deeper than it looks. I do not mean entirely that mistakes occur because a diagnostician will devote his whole attention to the heart and hence neglect something important in the throat. I mean even if every part of the body is carefully examined—even by a group of specialists each in his own line, even by a group clinic—and the result is all neatly typewritten down so that the report covers pages and pages and pages and pages—and there are x-ray reports, and blood chemistry reports, and toenail report, and then at the end it is all summarized. I mean even that is not a diagnosis. The sum of all local examinations is not a complete examination. Any more than if you have four legs and a head and a tail and a trunk, you have a dog. What is needed? Life—that is what is needed to make the dog. What is needed for the diagnosis? The same thing. A comprehensive

whole—not the sum of the parts. You need to know all about the patient—how he works and acts as a unit—about his business, his domestic situation, his hopes, his despairs.

Let me illustrate. I will choose a very common experience. Just before I quit private consultation practice, a woman was brought to me who had just come from a great sanitarium-clinic. She had one of those long typewritten reports on her condition which are now so common and so worthless and so uninteresting. After talking to her five minutes I threw the report away because anybody could have seen in that length of time her physical condition was not the key to her disease. She had a personal problem of some sort.

This is what I found. She consulted me for stomach trouble, pains, couldn't eat certain things, was hypersensitive to certain things. But the stomach trouble had only lasted a year or more. Before that she had had colon trouble, and before that menstrual trouble, and before that fatigue, sweating and temperature in the afternoon.

She had consulted in all about twenty doctors or clinics. Please note—all of them were the very best examples of modern medical practitioners. This is what had happened to her.

Four operations—appendectomy, ventro suspension, tonsillectomy, five teeth out.

One change of climate to Arizona—on the diagnosis of tuberculosis.

Twenty to thirty x-ray plates of her chest. She could not remember exactly how many.

Twelve blood serum tests.

Four basal metabolism rates.

My final diagnosis was fear-neurosis. It dated from the influenza epidemic—during the epidemic she lost a sister and she was afraid she would die herself. It took six months of patient care to cure her.

The idea that a staff of diagnosticians can make an examination of a patient, each in his own field and then somebody who has not up to then seen the patient can summarize the whole set of reports and make a diagnosis, is not only the most unscientific conception imaginable, but also one of the most dangerous. A diagnosis is a personal thing—an art just as much as a

treatment is. And the diagnosis and treatment are continuous. One leads into the other.

Fifth—trying to make a diagnosis on the first visit.

Time is a better diagnostician than any of us. The course of the disease clears up many a mystery. The most thorough examination leaves us puzzled sometimes. But there is a temptation, in spite of the fact that we know we are puzzled, to make pronouncement, to call the disease what seems most likely.

Nothing illustrates this better than cancer of the colon cases. A typical instance was a man aged sixty who complained of a pain in the epigastrium. The x-ray man found a defect he called ulcer of the stomach (note that and think of my first point). He was treated by alkalies and a strange up set occurred called alkalosis. Then he began to have colon trouble. Barium enemata and sigmoidoscopy were negative. He was re-treated for ulcer. Finally an intestinal obstruction intervened and the real diagnosis—of cancer of the sigmoid—was arrived at.

Summary—the five most frequent causes of mistake in physical diagnosis in my experience are:

1. To find signs which are not present.
2. To let someone else report an important sign to you instead of investigating it yourself.
3. To depend on unreliable methods.
4. To make a local instead of an inclusive examination.
5. To insist on making a diagnosis on a single examination.

But behind all that there is another lesson—to be a creditable practitioner you must keep close to your patients. You must know them not as a physiologist knows a guinea pig but as one human being knows another.

Argyle Building, Kansas City, Mo.

DISCUSSION

Dr. L. D. Snorf, Chicago: I think the essayist has covered very thoroughly the problems of physical diagnosis. It seems to me that if we can learn a few of the things he told us, and use our common sense, or horse sense, not depending too much on laboratory interpretations, that, after all, is the thing. We are rather driven to do so unless we have the courage of our convictions. The patient wants an x-ray and all the other laboratory tests. If you will make a thorough investigation with your five senses first, I think you will probably come out with the greater percentage of accurate diagnoses.

Dr. Logan Clendening, Kansas City (closing): I do not wish to appear as an opponent of other methods of diagnosis. But I do not believe it is any more scientific to use all the methods in our hands than to use none. They should be selected to the patient's need. I do think, however, that at this time in the history of medicine we need more emphasis on the physical contact with the patient, getting away from routine mechanical methods and getting back to medicine as an art, not as a science.

SOME REMARKS ON THE ETIOLOGY AND TREATMENT OF CONVER- GENT SQUINT*

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Historically our ideas of the etiology of concomitant squint have undergone the same process of evolution as any other branch of the medical sciences. From such simple explanations as an "evil disposition," "imitating other members of the family," etc., to the theory of anomalous insertion and length of the extra ocular muscles and finally to the most recent development of the accommodation theory of Donders and the fusion theory of Worth.

That there may be an occasional squinter as a result of an anomalous muscle is altogether probable. The extra ocular muscles are subject to many variations in length, breadth and insertion. These cases are, however, in the minority, and when found, the treatment resolves itself into a simple surgical procedure for the attainment of purely a cosmetic result. No other factors need be considered. The great majority of concomitant squinters are not, however, of this type and in the explanation of their probable cause, many factors are to be taken into account.

Worth attempted to explain the onset of squint as due to an undeveloped fusion faculty. It is known that in order that the two eyes may see an object distinctly, or stated more scientifically, to enjoy single binocular vision, it is necessary that the images of the object focus on corresponding parts of the retina of each eye. Our eyes, however, are parallel only when looking at distant objects. When focusing for near objects, they are subject to varied degrees of convergence, and in so doing, each eye fixes the object at a differ-

ent angle, or the object may not focus on exactly corresponding retinal points; were it for this purely physical mechanism of vision only, we would see a double image. The ability to blend this double image into one, has been attributed by Worth to a fusion sense, a fusion faculty or a fusion center. When therefore, for any reason, this fusion faculty, or fusion center is not fully developed, the child is subject to diplopia, and in order to avoid this annoyance he suppresses the vision in one eye, usually the eye with the greater refractive error, and fixes only with the better eye.

While this theory explains the process for single binocular vision, it does not explain the actual mechanism of convergence or divergence. For this we are indebted to Donders and his accommodation convergence theory may be explained briefly in this manner.

When a person with normal eyes, or an emmetrope, looks at a distant object anywhere from six meters to infinity, the eyes are in a static state, the accommodation is relaxed and the visual axes are parallel. Should he, however, fix at a near object, say at one meter distance, it will be necessary that he accommodate to the extent of one diopter, if at 50cm., two diopters, at 33cm., three diopters, etc. During this process of accommodation, the eyes automatically converge to the near object. The angle of convergence which each eye will make is definite and bears a direct relation to the diopter of accommodation. To express this relation, the term meter angle of convergence is used; thus, the angle of convergence which is made when an eye accommodates to the extent of one diopter is known as one meter angle of convergence, when two diopters of accommodation are required, there are two meter angles of convergence, etc.

Consider now the hyperope or far sighted whose accommodation is never relaxed. As a concrete example, let us take a child with four diopters of hyperopia. When the child fixes at a distant object he must use four diopters of accommodation, but in so doing, he also converges to the extent of four meter angles. When he looks at a near object, say 33cm., he must use his four diopters of accommodation for distance plus three diopters for near or a total of seven diopters; he then automatically converges to the

*Read before the Clinical Conference of the Research and Educational Hospitals, University of Illinois, March 6, 1930.

extent of seven meter angles for each eye. It will be seen, that with so wide an angle of convergence, there may be created an insurmountable diplopia. In order to avoid this annoying diplopia, the child will fix with the better eye while the other eye will converge to an extent of what the two eyes normally should; thus in our example fourteen meter angles. The vision will of course be suppressed in the converging eye. It is plain then, that while the squint is manifested in one eye, the physics of squint is really a bilateral process.

The treatment of squint by the use of glasses is based entirely on this theory. In the hyperope a full distance correction is given, thus obviating the necessity for accommodation and with it an excessive amount of convergence, while in the myope with a divergent squint, the reverse holds true. Here glasses are prescribed for distance, and the patient is forced to accommodate for near objects so that a normal convergence is established.

The treatment thus outlined, seems, on the face of it, very simple; the results in our clinics, however, are not so encouraging. The great majority of cases eventually become surgical subjects. The reason for this is not, however, in the theory of the treatment, but is due to the fact that as a rule, these children come to us too late for conservative measures. There is still a widespread belief among the laity that a child may grow out of its squint, and there is still a lack of appreciation by the average general practitioner and even by the pediatrician, of the true problem of the squinting child. I have already called attention to the fact that regardless of what theory we wish to accept in a case of squint, the underlying reason is a diplopia followed by a suppression of vision in the weaker eye. Given a case that develops a squint early enough and if we neglect that case long enough, the squinting eye eventually becomes an amblyopic eye, for all practical purposes a blind eye. The chief problem in a squinting child then, is not the cosmetic result but rather one of conservation of vision.

In a statistical study of 1,017 cases by Worth, he found that the onset of squint was as follows:

Before the 1st year.....	134 cases
Between the 1st and 2nd years.....	186 cases

Between the 2nd and 3rd years.....	247 cases
Between the 3rd and 4th years.....	189 cases
Between the 4th and 5th years.....	113 cases
Between the 5th and 6th years.....	73 cases
After the 6th year.....	75 cases

That is, in 75% of the cases the onset was before the end of the fourth year, and in about 93% before the end of the sixth year: long before the retina is fully developed and at a time when, if treatment could be instituted and carried through to its final conclusion, these children could be saved the necessity of going through life with one eye practically blind. It is, however, unfortunate, that most squinters come to us at an age when the squint is fully established and the eye is already amblyopic. It is then useless to expect any cure by means of glasses. The problem then becomes a surgical one for the attainment of purely cosmetic results.

55 E. Washington St.

RECTAL AND PERIRECTAL DRAINAGE OF DEEP PELVIC ABSCESS*

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Superficial abscess of the perineum, perirectal structures or in the buttock regions is usually readily recognized, therefore, promptly and thoroughly evacuated, and usually heals without much destruction of tissue or later complications. Deep pelvic abscess because of the many different and diverse lesions which may be its source has a somewhat obscure beginning, is frequently overlooked, misdiagnosed and mistreated. Because of the multiplicity of lesions which may end in deep suppuration the abscess may be situated in front, lateral to, or behind the pelvic viscera and involve either the pelvic connective tissue, the pelvic peritoneum or both.

1. The more usual causes of superior pelvi-rectal abscess when within the pelvic connective tissue are:

a. Periproctitis due to ulceration of the rectal wall; secondary to rectal stricture; or penetration of the rectum by a foreign body. These, however, are but seldom the source.

*Read before Section on Surgery, Illinois State Medical Meeting, May 20, 1930.

b. Extension from a focus in the urethra, prostate, or seminal vesicles.

c. Periuterine cellulitis.

d. A complication of pelvic surgery, pelvic injury or fracture.

e. Disease of the vertebra, sacro-iliac joints or pelvic bones.

f. Metastasis from some distant focus.

2. In other instances the abscess may be situated sub-peritoneal or intraperitoneal. In the latter case the abscess is covered with agglutinated loops of bowel and omentum, and here is usually due to

a. Complication of an abdominal operation.

b. Appendicular abscess.

c. Meckel's diverticulum.

d. Fallopian tube or ovarian disease.

e. Diverticulitis of the sigmoid.

Pus may accumulate in the pelvis without marked constitutional disturbance and therefore an abscess may attain considerable size before it is recognized. In most cases the difficulty of establishing a diagnosis is because of the indefiniteness of the symptoms and yet all patients give a history of antecedent illness or trauma with evidences of pelvic infection later. The ease of diagnosis therefore varies with the clearness of the history, the size of the abscess and the extent of involvement of other organs.

The clinical picture is that of general sepsis, masking the local symptoms to so great an extent that the true nature of the illness is not discovered until too late in the course of the illness, and a mistaken diagnosis of typhoid fever or malaria may be made.

In the post-operative cases the patient appears to be doing well for the first few days, the pulse rate and temperature falling to normal where it had previously been raised. Then the temperature rises again. Diffuse abdominal pain and tenderness are complained of, but there is no rigidity. This complete absence of abdominal rigidity is a cardinal sign of localized pelvic pus. Abdominal distention comes on and cannot be relieved even though there is thorough intestinal evacuation.

The late symptoms arise from the abscess itself, rather than from the underlying pathology and do not differ much regardless of the primary focus.

Pain deep in the lower abdomen and in the

pelvis, gradually increasing in severity, begins as a feeling of warmth or fullness in the perineum or up within the rectum. It becomes sharply severe when the bladder or rectum is distended and especially so during the acts of urination or defecation though it is promptly relieved after these organs are emptied.

Tenesmus of the bladder or rectum are troublesome although variable in degree. Some patients have to urinate every few minutes. This difficulty of urination sometimes amounts to actual obstruction of the urine because the large abscess compresses the ureter. In elderly men these symptoms may be mistaken for hypertrophy of the prostate.

Constipation sometimes results from obstruction of the rectum, but usually diarrhea exists instead. There is a constant desire to defecate, a constant rectal tenesmus and the passage of mucus. So constant is this triad of symptoms that it is almost pathognomonic.

Upon abdominal palpation there may be found an ill defined tender mass rising from the pelvis, but when distention is marked, this may not be very evident. The perineum may be seen to bulge when pressure is made over the mass pushing it into the pelvis.

The anus at this time will be found patulous, considerable clear, odorless mucus filling and escaping from the bowel.

The most definite information is obtained by digital examination through the rectum. A bulging is noted of the anterior rectal wall, which, when suppuration has actually developed, becomes soft and edematous.

These abscesses, being secondary to an earlier infection, which may have been in neighboring structures, or in a distant nidus, come on as a late complication, ten to fifteen days elapsing from the time of the primary conditions before the presence of the abscess is discovered. During this period of symptomatic quiescence the pus is being walled off by adhesions and by other processes and becomes a localized abscess. It is during this stage, before the collection is definitely palpable, that watchful expectancy is so important.

The position of the abscess is determined by a number of circumstances, such as the location of the primary infection, certain anatomic conditions determining the direction of spread of

infection such as the planes of intraperitoneal fluid communication, the lines of attachment of the mesenteries, the troughs formed by the mesenteric leaves, the dissemination by active lymphangitis and by venous blood channels. Bernays collected the serous fluid from the pelvic floor of a number of cases of acute appendicitis with beginning peritoneal reaction, but without pus at the time of operation, and found that it contained a rich bacterial flora, which, incubated on suitable media, developed very prolifically. This fluid gravitates and may subsequently become infected. It therefore seems logical that the Fowler position so extensively used after abdominal and pelvic operations may favor the late development of pelvic abscess in suitable cases. Therefore, a number of methods of attacking the abscess will present themselves and each method has its advantages under specific conditions. A very broad generalization is that, as a rule, where these abscesses show by phenomena in the abdominal or pelvic structures, a tendency to "point," that site is usually the best to select for incising them. The essential points in our plan of treatment are to provide free and dependent drainage, to interfere as little as possible with the excretory and sexual functions, to minimize complications, and to hasten convalescence.

Three possible terminations of these abscesses may occur.

1. Resolution.

From the literature it would appear that a small number of pelvic abscesses are resolved. This is a disputed matter among authorities, some alleging that the relief is only incomplete and temporary to be followed by a flare up and suppuration.

2. Spontaneous rupture.

Rupture spontaneously into the free peritoneum, a gut segment, the bladder, vagina, or rectum, or externally through the abdominal walls or the perineum may occur sometimes with only a little straining at urination or defecation or during a rectal exploration, although this latter trauma can hardly be allowed as a spontaneous rupture. Sometimes there is no apparent determining cause. Rupture into the rectum occurs more frequently than into the vagina, the latter being rare.

Because a number of these cases will sponta-

neously rupture externally a temporizing course of management is sometimes instituted, but such procedures unduly sacrifice vital organs and structures which it is our aim to conserve. Spontaneous rupture may also at times be insufficient for proper drainage and an infected cavity remains to be a chronic discharge or the cause of subsequent attacks of abscess formation. Therefore, we feel that as soon as the diagnosis is made, a proper surgical intervention should be advised.

3. Operation.

There are several different avenues of approach to these abscesses, each having its advantages in selected cases.

A. Approach through the abdomen.

There are two directions of abdominal drainage, 1. Through the peritoneal cavity and 2, extraperitoneal.

While pelvic abscesses do admit of being evacuated and drained through the abdominal wall, they do so somewhat against gravity. Drainage through the abdominal parieties is often resorted to alone, though frequently the abdominal drain constitutes but one of two drains simultaneously used, the other passing outward through some part of the floor of the pelvis. When a pelvic abscess is drained from below, the opening is placed in some part of the middle line of the body. In women the usual method of procedure is to make an opening through the dome of the posterior vaginal fornix. In males and in young girls the rectum is often used for single or counter drainage.

B. Colpotomy—Vaginal drainage.

Vaginal drainage is a very definite surgical need and a satisfactory operation in selected cases, but owing to the many different causes, sources and sites of intrapelvic abscess, the indications for vaginal drainage must be certain or an unsurgical procedure is done of cutting an opening into the posterior vaginal fornix, and then burrowing in the dark with an instrument or the finger, hoping to break through the walls which bar the pus from evacuation, and not break through walls which protect uninfected cavities or into uninvolved structures or organs.

The vaginal route is not a route of selection in female children, in young unmarried, and in nulliparous women, where it should not be employed because the vagina does not admit of

enough dilatation to permit safe and adequate incision of the pus pocket. The prolonged contact of the cervix uteri with the infectious discharges escaping through the vaginal incision exposes the uterus and the adnexa to infection.

C. Proctomy—Rectal drainage.

Drainage through the rectum was the usual procedure a generation ago and in selected cases is good surgery. It is never to be attempted as a blind operation. Drainage through the rectum in males, like drainage through the vagina in females has distinct advantages. The technic is easy, with very little danger, relief is immediate and our patient is out of bed in a week. The rectal route is, theoretically, uninviting; nevertheless, the objections that have been made to rectal drainage of pelvic abscesses are in the main theoretical. Rectitis has never been observed in any of the reported cases, and fistula is common to all other methods of drainage by the lower routes; the fear of fecal reflux to the abscess cavity is to a great extent imaginary.

The dangers of rectal section are:

1. Puncture of the bladder. Inflammation contiguous to the bladder is very prone to cause incomplete emptying of this viscus, and the patient should always be catheterized before operation.

2. Serious hemorrhage may occur because sizable blood vessels are liable to be cut.

3. Rectal section does not remove the focus of infection, which, if still present, may lead to a recrudescence later of serious symptoms.

D. Perirectal drainage.

Abscesses in the superior pelvirectal space having the levator ani muscle below and to the outer side, the loose areolar tissue of the opposite pelvirectal space on the median side and the soft pelvic peritoneum above, may do much damage by dissecting extension and should be incised if a certain diagnosis can be made, and usually it is good surgery to open up the space even if the diagnosis is doubtful.

The skin incision, owing to the abscess being above the levator ani, must be long. It is placed parallel with, and well outside of the external sphincter muscle beginning an inch anterior to the anus and carried well back toward the coccyx. The dissection is carefully carried through the ischiorectal fossa to the levator ani muscle, two inches from the skin. After penetrating the

levator ani one begins to enter the site of the abscess a distance of two and a half to three inches. The average index finger is about 7.5 cm, or three inches long.

The entire dissection must be cautiously carried out to guard against injuring adjacent structures. When the cavity is entered and the pus evacuated, all intercommunications are broken up, but as unsupported blood vessels and nerves may hang loosely in the abscess cavity they must be watched for. A finger introduced to explore the cavity breaks down intercommunications and sweeps out all necrotic tissue. If the cavity is very deep the finger may be aided by carrying up a pair of dressing forceps and swabbing the cavity with a gauze wipe. The cavity may also be flushed out with saline solution and is then lightly packed with strips of gauze.

The upper part of the dissection must be especially carefully carried out to avoid injuring the urethra or the vesico rectal pouch of peritoneum. During this deep dissection the parts must not be stretched lest these friable tissues tear into the bladder, rectum or peritoneum.

This parasacral approach is an extensive dissection, not just a stab wound. It necessitates separation or division of the fibres of the levator ani, gluteus maximus and sometimes the sacrosacral ligament. It may be attended with troublesome hemorrhage.

DISCUSSION

Dr. Clement Martin, Chicago: Dr. Drucek's carefully prepared paper has covered the subject thoroughly.

The matter may be simplified by classifying these abscesses as supra or infra-levator abscesses. They are in the great majority of cases supra-levator, above the levator ani muscle. In the men they may be in the fascial spaces above the pelvic genito-urinary organs, in women between the upper vagina or cervix and rectum or run below and between the folds of the broad ligament; in both men and women the abscess may lie just below the pelvic floor between the peritoneum and levator ani muscle. A collection of pus may lie between the sacrum and rectum, the retro-rectal abscess. The subject is important because of the difficulty which may attend a diagnosis, especially in men and because peritonitis may result. A man having a supra-levator abscess may offer a real problem in diagnosis. One is fairly certain of the presence of an abscess somewhere because of fewer leucocytosis, and the general appearance of the patient, but determining the site of the abscess may be quite difficult especially in its early stages. The history is helpful; supra-levator abscess in males is generally secondary to a genito-urinary in-

fection, and to disease of the cervix, corpus uteri and adnexa in females. Exceptionally it results from rectal disease, chiefly ulceration in the lower rectum. Such ulcers may follow the ill advised use of chemical cauterants or electrodes, or instrumentation especially by irregular practitioners. The rectal findings vary; there may be none in the early stages, later bogginess can be felt on digital examination of the rectum. A tender indurated area may be found if the abscess is of good size.

As has been said, treatment depends upon the sex of the patient and the position of the abscess. Posterior colpotomy often suffices in women; if the pus is retro-rectal, the perineal approach is necessary. In men open free dissection is made through an adequate perineal incision. This must be accurate and under guidance of the eye. Another point of some consequence is to cut the levator ani muscle at right angles to the direction of its fibers so the opening will gape and not interfere with drainage as the tract heals.

RELATION OF THE COLLOIDS OF THE BLOOD TO CLINICAL MEDICINE*

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Before the monumental work of J. E. R. McDonagh of London appeared the clinical examination of the blood had been principally directed toward the cytology, the chemistry and the various specific serological reactions. However the fixed and stained specimens which give so much information in the differential blood count permit no vision of the cell in full activity. Further, one of the frequent steps in estimating the metabolites of the blood is to prepare a protein free filtrate, thus divorcing the glucose, urea or other constituent from any consideration in relation to the protein content. Lastly the question of agglutination, flocculation, precipitation and lysis has been left to the serologist searching for evidence of specific infection.

The films just projected give evidence that hydration, agglutination, flocculation and precipitation may be seen in the making. Long before the serum presents macroscopic or even microscopic agglutination these ultramicroscopic colloidal particles may be observed as they react to various chemical or bacterial toxins. The changes in disease may be followed after use of therapeutic agents, and a means provided for determining when treatment should be terminated.

Serum from a healthy individual viewed in a dark field shows an enormous number of actively motile protein particles. They are uniform in size and diffract the light moderately. These particles maintain this motion for days, even weeks or months.

The numerous metabolites of the serum, as glucose, urea, salts, sodium, calcium, phosphates, sulphates, fatty acids and other lipoids are found partly in solution in the aqueous medium and partly absorbed upon, or combined with these protein particles.

With normal dispersion and motion of the protein particles the average findings are:

Glucose	80-100 mgm.
Urea	20- 30 mgm.
Sedimentation rate three hours (Friedlander)	
Refractometric index	1.3500
Viscosity	1.75

Infection and chemical intoxication affect the particles profoundly. They subdivide until they lose their power to reflect light, becoming sub-micronic or amicronic.

The Brownian motion slows or is lost entirely. Eventually many of the particles go into solution and the adsorbed constituents are found increased in the aqueous medium.

Different lytic agents produce varying changes in the amount of sugar in one instance, urea in another, calcium in a third for example.

Some of the particles or portions split off do not go into solution however. They tend to enlarge, coalesce and are bright. These form the so-called giants or hydrated particles and are composed of globulin or lipoglobulin. These tend to agglutinate, flocculate, precipitate individually or in masses.

In some instances solution or lysis of the protein particles prevails. At other times aggregation of the protein particles predominate. In the first condition there is a loss of water which unites with the metabolites as they leave the protein micella—this we speak of as dehydration.

Contrary to this we have the absorption of water by the lipo globulin fraction as the particles increase in size—this is termed hydration. When this predominates there is a physicochemical combination of the metabolites as well as water with the globulin or lipoglobulin and chemical examination of the protein free filtrate shows a diminution of the metabolites.

McDonagh was the first to correlate the ultra-

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microscopic findings with the physicochemical changes in the serum.

In dehydration the metabolites as determined chemically tend to increase, in hydration to diminish. Likewise where lysis or dehydration prevail the sedimentation rate is shortened, the refractometric index and viscosity are lowered. The opposite is most often found in hydration.

The differences lend themselves well to tabulation:

An example of dehydration	Average	An example of hydration
Glucose .....130	80-100	56
Urea 43	30	5
Sedimentation Rate (Friedlander) . 17 minutes	3 hours	5-48 hours
Refractometric index .....1.3490	1.3500	1.3518
Viscosity .....1.5	1.75	1.8-2.0

A subacute or chronic dehydration may produce no symptoms until well advanced. Attention is attracted by the polyuria, polydipsia or weight loss in diabetes mellitus or casually finding a hypertension. Both are associated with dehydration. Mild cases cause increased acidity of the urine, sometimes a heightened ammonia or urea output or again appearance of indican or urobilinogen in the urine or various color reactions as the Van den Bergh in the blood. Acute cases often include post anesthetic pneumonias, pulmonary thrombosis and massive collapse of the lung.

Acute alcoholic intoxication produces first an augmented normal dispersion with its feeling of well being. This is soon followed by stupor which, like ether anesthesia, is accompanied by dehydration evidenced by the intense thirst which is frequent. In the case of alcohol the headache is due to the secondary hydration which supervenes. In chronic alcoholism hydration is the rule. The "old bloat" with "whiskey fits" and terminal wet brain give abundant confirmation to this fact.

In long continued infection particularly with gram negative organisms hydration predominates. The cause is evidently the accumulation of the hydrated particles which resist lysis and are deposited in various parts of the body.

Here we find syphilis, chronic arthritis, chronic fibrotic parenchymatous conditions and those states associated with edema.

The number of dehydrating drugs used to combat these conditions gives evidence of their

frequency. Bromides, iodides, hexamethylene, mercury, the barbitol group, the arsphenamines and digitalis are useful dehydrators. Once the hydration is overcome continued administration brings about dehydration. As a result there follows the bromide or iodide acne, the barbitol rash, the urinary tenesmus or hematuria after hexamethylene or salivation or enteritis after mercury.

Digitalis produces good results in edema but is often harmful in pneumonia where it intensifies the existing dehydration.

In conclusion let me mention the action of insulin the best known substance producing hydration. The effect is seen in the increasing number of hydrated particles, the decrease of blood sugar, the production of edema. Sudden increase of the hydrated lipoglobulins following over dose, when precipitated in the brain, is the cause of convulsions.

Dr. F. Le Blanc, Elgin, Ill.: You have heard Dr. Wright's explanations of the meaning and value of this new interpretation of the ultramicroscopical particles in the study of blood serum in disease. This is the first time that ultramicroscopic particles of the blood serum have been illustrated with moving pictures. This required a great deal of time and money. We have not known much about these particles until Henle, a German anatomist, said the life of cells was caused by intracellular granulations. Bechamp, of the University of Montpellier, in *la Theorie du Microzyma*, speaks of "little bodies" associated with cells too minute to differentiate under the microscope. He said the naturalist will not be able to distinguish them by a description, but the chemist and physiologist will characterize them by their function. At that time most people believed in Virchow's view of the cell as the unit of life in all forms, vegetable and animal, and this opinion was held by a large body of experimenters, including Pasteur. Later, Schilling observed in the dark field the beginning of inflation, stiffening of previously liquid granules, separation of granular plasm, formation of pseudopods and amoeboid motion and vacuolization of living leucocytes. He ventured the opinion that the small powdery particles of blood which become immediately visible under the dark field are mainly fat particles. He claimed that they constituted a chemical control of fat resorption and working capacity of the reticulo-endothelium. In the last decade, Dorsum of the University of Pennsylvania has noted that in disease the protein particles of the serum assume certain configurations and a tendency to enlarge, whereas in health he depicts the normal dispersed and uniformly small motile protein particles which McDonagh of London calls a normal dispersion. Dorsum is the only one in America who has to my knowledge drawn attention to these particles in serum. Lumiere of France

defends his theories of flocculation of the blood serum as being the cause of pathology. He states that the high refractive index and high viscosity are not the cause of shock, but the result of flocculation. He has demonstrated the possibility of obtaining notable amelioration and even cure of certain ailments such as asthma, epilepsy and various mental affections, by suppressing the phenomena of flocculation, and thereby stopping the symptoms of the disease. These flocculations by their irritating action upon the endothelial terminal nerves of the sympathetic system create vasomotor disturbances affecting the equilibrium of the serum and the leucocytic formula. He says that Herman Dold of Germany made the mistake of blaming the substance anaphylatoxin as the cause of shock, whereas such a substance has no real existence, and that flocculation is the real state of the serum particles giving rise to the symptoms of the anaphylactic crisis.

If the serum be examined in various conditions of anaphylaxis, whether following the ingestion of certain elements to which one might be sensitized, such as fish, eggs, milk, etc., or following the dose of a drug in certain sensitive individuals such as antipyrin, chloral, quinine, etc., or a second dose of a serum such as diphtheria antitoxin; or an intravenous dose of arsenobenzol; the serum will show the presence of flocculates and the clinical symptoms will be analogous, which proves that these substances, essentially different from each other, still possess a common pathological property, that of causing serum flocculation followed by the clinical symptoms of disease. In experimental animals which succumb to these experimental infections, the visceral lesions revealed by histological examination are more or less pronounced but always comparable. Therefore this analogy of symptoms and lesions would cause one to think that the cause of the sympathetic disruption is in the main the same. Whether the symptoms of shock are acute or chronic is dependent upon whether the insult of these flocculates upon the level of the nervous system capillaries is affected in a slow or rapid fashion. This may explain McDonagh's assertion that there is but one disease, which he defines as the signal of defeat which the protein particles of the host suffer at the hands of an invader.

AGRANULOCYTOSIS WITH CASE REPORT*

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Agranulocytosis is a name given to a condition first described by W. Schultz²⁶ in 1922 and considered by him a definite clinical and pathological entity of unknown cause. The validity of this view having been seriously questioned by other investigators has resulted in a varied nom-

enclature such as, Angina Agranulocytica, Friedman;⁹ Mucositis Necroticans Agranulocytica, J. Weiss;³⁰ Agranulocytosis Septicemia Simplex, Vladimir Jedlica;¹⁶ Agranulocytopenia, David;⁶ Sepsis Agranulocytica, Feer.⁸ That the agranulocytic complex accompanies other diseases than the definite entity first described by Schultz²⁶ is well demonstrated in the accumulative literature since 1922.

Briefly, the main characteristics as described by Schultz²⁶ are as follows: The patient, usually a middle aged woman, previously in good health, is taken suddenly ill with a sore throat, dysphagia, chills, high fever, rapid pulse and prostration. Ulcerative, necrotic and gangrenous lesions involving the mouth, throat, and other mucous membranes are found. Local lymphadenopathy is present. A mild jaundice occurs in about half of the cases. The liver and spleen are enlarged. The blood shows a leucopenia, which to be characteristic according to Schultz,²⁶ must give a count as low as 2,000 and may even fall as low as 100. The granulocytes are greatly decreased and may entirely disappear. The lymphocytes are relatively increased. Hemorrhagic diathesis is not a part of the typical case. The autopsy findings show a bone marrow grossly red in color, microscopic preparations from which reveal an almost complete absence of granulocytic cells. Granulocytic cells are absent also around necrosing and gangrenous lesions. Death occurs in three to four days, usually from broncho-pneumonia.

The exact etiology of agranulocytosis is unknown. Mouzon,²¹ Roch, and Mozer²⁵ were inclined to place it in relation to the acute leukemias. J. Zikowsky³⁴ asserts that it is a form of severe sepsis usually due to a streptococcus, which causes a crippling of the leukopoietic system. He reports two cases, in which, streptococci were cultured from the blood. Feer,⁸ J. Weiss,³⁰ V. Weiss,³¹ Turck,²⁸ and Zadek³² are also of the opinion that certain bacteria may have a special affinity for and toxicity to the granulocytic system. Friedman⁹ says that after careful examinations of the blood and internal organs he can not accept this conclusion. There may be some unknown virus which excites the disease, but infectious etiology has not yet been proved. He thinks the positive bacterial blood findings are due to secondary infection as a re-

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sult of the absence of protective polymorphonuclears.

Predisposing or exciting factors in relation to etiology have been reported. H. P. Hill¹¹ says that it has repeatedly followed extraction of teeth. Bromberg and Murphy⁴ report a case following prophylactic typhoid vaccination. Meyer and Rosenberg,¹⁹ a case developing in a debilitated, cardio-vascular-renal patient, aged 55. Aubertin, Bancstine, and Lehman² report two cases in syphilitic patients treated with acetylarsan and bismuth, and Jacquelin Celice, and Langlas¹⁵ a case following the administration of arsphenamine. R. J. Hunter¹⁴ published a report of a case following fracture of the tibia. It has been known to exist after ill health from other causes—Wm. C. Heuper,¹³ but past history seems to have no special influence as a predisposing cause. In Kastlin's¹⁷ review, 27 cases out of 43 gave negative past histories.

As to geographical distribution, the disease is more prevalent in Germany, Austria, United States and Canada. More cases have been reported from Germany, probably because it was first described by Schultz,²⁶ wherefore German clinicians have been more alert in discovering and reporting cases.

The sex incidence shows a high percentage of cases in women between the ages of 30 and 50. Friedman⁹ reported 29 cases—of which 24 were women and 5 men; 6 of these above 60 years of age. Kastlin reviewed 43, 78 per cent, of them females. Also J. Weiss²⁹ described a case developing at the end of a two weeks otitis media in a six year old girl; and Rudolph Bantz³ found it existing in a four and a half year old boy. Wherefore it is evident that all ages are susceptible.

As the literature on this subject has increased, there now being about 125 cases published, the symptomatology has become more varied. All cases which have been reported, however, as agranulocytosis do not correspond to the clear cut description originally given by Schultz.²⁶ Therefore, in dealing with this disease which is of unknown etiology and pathogenesis, it will be necessary before a definite clinical entity can be undebatably established to collect and correlate from time to time the various symptoms as reported together with autopsy findings.

The blood findings at present may be summarized as follows:

1. Leukopenia 2,000 to 100, becoming lower as death approaches.
2. Granulocytopenia—Friedman⁹ states that to require the absence of all granulocytes for a diagnosis is too radical. They vary from 0 to 15 per cent. Immature forms are not present, but degenerative forms may appear.
3. A lymphocytic decrease following closely that of the granulocytic cells, but a relative lymphocytosis. The monocytes are sometimes temporarily increased; but the oxydase reaction for these cells is always negative.
4. The approach of red cells and hemoglobin to normal—Friedman⁹ gives the range of red cell counts from 2,500,000 to 5,100,000.
5. Thrombocyte range 112,000 to 310,000.
6. Absence of hemorrhagic diathesis. Allan¹ reports a case of agranulocytic angina with thrombopenic purpura.
7. Normal coagulation and bleeding time.
8. Blood cultures negative as a rule. Of Friedman's⁹ 26 cases, 20 showed negative cultures and 6 positive.

It is noteworthy that the ulcerative, necrotic, and gangrenous lesions occur in those parts of the body where, under normal circumstances, bacteria usually exist. The lack of polymorphonuclear defense is the probable explanation.

The mouth and throat lesions reported comprise the following symptoms well described by Hueper:¹³ The tonsils when affected may show all gradations from a simple follicular tonsillitis to a gangrenous process. They are usually enlarged and reddened, showing whitish or yellowish spots some merging to a dirty gray or yellow coat, on removal of which an ulcerated surface appears. They may be greenish or black and the gangrenous tissue may slough leaving only small stumps. The tonsils may escape entirely or a paratonsillitis may occur. Throat bacteriology shows staphylococci, streptococci, pneumococci, bacillus pyocyaneus, diphtheria, and Vincent's organisms. Similar necrosing, ulcerative, or gangrenous processes may occur as an extension or as an independent process on the pillars, uvula, palate, pharynx, larynx, tongue, and gums. Gingivitis was especially marked in a case reported by Schultz,²⁶ in which the patient had first consulted a dentist.

In addition to the mouth and throat lesions, similar ones have been found involving the vulva, vagina, cervix, esophagus, stomach, duodenum, ileum, colon, rectum, and anus. W. Schultz²⁶ reports a case in a 28 year old woman, in which a piece of intestinal mucosa the size of the palm of the hand was extruded from the anus. That this was mucosal tissue was proved microscopically and its sloughing was followed by rectal stenosis.

The gastro-intestinal symptoms reported include nausea, vomiting, diarrhea, flatulence, abdominal pain and tenderness. Petri.²⁴ A noteworthy case was reported by Edith Peritz,²³ which masqueraded under the picture of a cholecystitis.

The liver and spleen may both be enlarged, but more often the latter organ. The heart is normal. In some cases toward the end the lungs show a broncho-pneumonia. C. Hirsch¹² reports a case of double lung gangrene. The urine shows varying degrees of albuminuria, hyaline and granular casts, red and white cells, urobilin and urobilinogen.

Symptoms referable to the nervous system are headache, restlessness, and delirium. The skin shows a variety of lesions. Petechial hemorrhages are rare and scanty. Jaundice occurs in 50 per cent. of cases. Elkeles⁷ reports vesicles; Lawrence K. Grundum,¹⁰ a small papular rash with pruritus; Zikowski,³³ vesicles with streptococci lymphangitis; Schultz.²⁶ an erysipelatous redness on the extremities and a papular rash on the thighs. Herpes, labialis and nasalis are common. There is no generalized adenopathy, but the submaxillary and cervical glands are enlarged and tender. Schultz²⁶ reports necrotic conjunctivitis and edema of eyelids. The eye grounds are always negative.

Autopsy reports include the following findings which have been verified by different investigators:

1. All necrotic, ulcerative and gangrenous lesions reveal by the absence of leukocytes a failure of the usual cellular response to inflammation.

2. The bone marrow shows an absence of neutrophilic polymorphonuclear cells. The red blood cell germinal centers and megakaryocytes appear normal. The white cell elements are made up

almost entirely of lymphoid and endothelial cells. Cells positive for oxydase are rarely seen.

3. The spleen is usually enlarged, dark red and moderately firm, but never soft as in septicemia. On cut surface the lymph follicles are not prominent. The sinuses are well filled with erythrocytes, proliferated reticulo-endothelial cells, and lymphoid cells. The former may outnumber the latter. Cells positive for oxydase are in general completely absent or only scantily present.

4. The submaxillary, cervical, peribronchial and mesenteric lymph nodes are generally enlarged and sometimes show hemorrhages. Microscopically they show atrophy of the lymph follicles and proliferation of the reticulo-endothelial cells.

5. The liver and kidneys show evidence of cloudy swelling.

6. The pleura, pericardium, and endocardium show frequent evidence of subserous hemorrhages.

7. The lungs present areas of bronchopneumonia with lack of polymorphonuclear response.

8. In any part of the gastro-intestinal tract swelling of the lymph follicles, hemorrhages, erosions, or ulceration may be found.

In the differential diagnosis of agranulocytosis the greatest difficulties are experienced in excluding the true blood diseases.

1. Aleukemic myelosis may show a blood picture which at first is confusing, but which later tends to assume the leukemic form, especially with reference to the differential count. There are usually some myeloblasts present, which are always absent in agranulocytosis. In cases remaining aleukemic throughout and not showing qualitative differences in the white cells, the diagnosis must rest either upon bone puncture or autopsy findings.

2. Aleukemic lymphadenosis may be still more difficult to differentiate because the pathological cell forms are not so characteristic as in the myeloid form.

3. Acute leukemias with onset of high fever, enlarged lymph nodes and leukocytosis show bleeding from the mucous membranes before necrosis and gangrene occur. Abnormal cells are always seen in the blood smear. An anemia of severe grade and thrombopenia oppose the diagnosis of agranulocytosis. No cases of agranu-

locytosis have shown frank evidence of leukemia at autopsy and the present opinion is that agranulocytosis is a reaction which is not of the leukemic type.

4. Aleukia described by Frank is a severe disease with high fever and mucous membrane necrosis and high grade leukopenia. It is differentiated by the severe anemia of aplastic type, hemorrhagic diathesis and thrombopenia. This disease, according to Friedman,⁹ may be closely related to agranulocytosis.

5. Aplastic Anemia offers no difficulty unless angina and high fever be present, in which case the differentiation may be impossible.

6. Sepsis. Zikowsky,³⁴ Turk,²⁸ Marchand,¹⁸ Stursberg²⁷ and Paroulek²² describe cases of sepsis which show neutrophilic leukopenia and relative lymphocytosis. Gangrenous stomatitis, angina, hemorrhagic diathesis, anemia, and thrombopenia are present. All have positive blood cultures and show at autopsy foci of sepsis with a septic type of splenitis. While the course of this disease is clinically similar to agranulocytosis, there is, however, only a small percentage of the latter showing evidence of sepsis with positive blood culture and few have infectious lesions prior to the time of acute onset. Because of the similarity of response in infection, writers suggest an inclusive nomenclature, such as, "Sepsis with granulocytic decrease," David,⁶ and "Sepsis Agranulocytica," Feer.⁸

7. Diseases showing necrosing processes in the mouth, but without an agranulocytic symptom complex offer little difficulty of differentiation. Diphtheria, Vincent's angina, septic sore throat, and monocytic angina may be mentioned.

8. Diseases showing at times an agranulocytic complex but absence of mucosal necrosis and gangrene are pernicious anemia, carcinoma, Hodgkin's disease and miliary tuberculosis. The differentiation is usually easy.

9. Poisons producing an agranulocytic leukopenia, such as arsenic, benzol, thorium, and Roentgen ray may be ruled out by the history.

It should be remembered that the differential diagnosis of agranulocytosis from similar diseases finally rests on the composite clinical picture and not on the various symptoms.

The prognosis of agranulocytosis is unfavorable. Death usually occurs in two to seven days, but a few cases run a more extended course last-

ing several weeks. Remissions may occur lasting from a few days to several weeks. Friedman⁹ reports a recurrence after six months, Moore and Wieder²⁰ one after two years. The prognosis is more unfavorable in cases with severe mucous membrane lesions. Friedman⁹ gives the mortality in his series as 91.6 per cent.

The treatment of agranulocytosis shows by its variety its ineffectiveness. Friedman⁹ reports the recovery of six cases after very small doses of Roentgen ray over the long bones. He gives 1/20 of a skin unit surface dose, deep therapy with .6 m.m. copper filter. Two treatments are given with one day intervening and frequent blood counts made to watch the effect. Call,⁵ Gray and Hodges also report recovery in a case after the use of Roentgen ray.

In view of the comparatively normal red cell count and hemoglobin with increase of thrombocytes, it would seem that blood transfusion is not indicated. As a matter of fact it has been ineffective except in cases of so-called sepsis agranulocytica. In the latter condition antistreptococcal serum has produced some cures. Zikowski.³⁴

Diphtheria antitoxin, leucocytic extract, the various silver compounds, acridine dyes, mercurochrome, sodium cacodylate, arsphenamin and methenamin have been used without favorable effects.

REPORT OF CASES

W. F., referred by Dr. H. W. Brink of Delavan, Illinois, female, aged 53, married, multipara, periods regular until December, 1928, since then only one menstruation. No history of previous illnesses except an operation for nasal polypi and ethmoiditis performed by Dr. Gaily of Bloomington, Illinois.

On July 20, 1929, she developed a sore throat and felt feverish, but did not go to bed. This condition continued to grow worse until July 29 when she called a physician who found her very ill with a temperature of 103°, severe angina with dysphagia, backache, and marked prostration. She was admitted to St. Francis hospital on August 1 with temperature of 103°, pulse 110, respiration 22 and the above symptoms prominently in the foreground. In addition she showed a mild delirium with severe headache and general muscular pains. The tonsils were enlarged to the point of approximation, reddened and covered with follicular patches. The pillars were hyperemic. A mild gingivitis was present. Marked fetor ex ore was noted. Smears and cultures showed the presence of diplo-streptococci and chains of streptococci. Cervical adenopathy was present, but not marked. Cervical tenderness more marked on left side. The patient expectorated considerable purulent secretion from post nasal space.

Other physical findings at this time were soft systolic murmur at apex; palpable spleen two fingers below costal margin, soft in consistency; an acute hyperemic area on the cervix, the size of a dime. The white blood count showed 1,300 cells of which 50% were polymorphonuclears, 44% small lymphocytes, and 6% large lymphocytes. The urine contained a moderate amount of albumin with a few hyaline casts. On August 2 to August 5 the temperature was irregular, ranging from 99 to 101.4, pulse range from 88 to 110, respiration 20 to 26. The blood pressure was 110/60. During this period the sore throat and dysphagia continued. There was considerable nausea and on one occasion she vomited a large amount of greenish fluid. She had gas pains and abdominal distension with tenderness in the lower abdomen. She was talkative, mildly delirious, and restless.

On August 3 the hemoglobin was 66%, red cells 3,400,000, white count 1,000. Polymorphonuclears 11%, small lymphocytes 60%, large lymphocytes 29%. The morphology showed nothing noteworthy, the platelets were greatly increased in number, coagulation time 7 minutes (Boggs), bleeding time 2 minutes (Duke), Kahn test negative, blood cultures negative, Widal negative. The feces were negative for occult blood.

On August 4 a mild jaundice was noted. The tonsillar patches had disappeared, but one large crypt in the left tonsil showed necrotic edges, was filled with detritus, cultures from which showed diplo-streptococci. From August 5 to September 9 the temperature range was 98 to 99.4. On August 8 the gums were swollen and tender and the bowels were loose. August 9 a mild urticaria developed. Examination of eyes by Dr. C. D. Sneller at this time showed icteric conjunctiva, pupillary reactions normal to light and accommodation, eye fundi showed slight pallor of discs and retina, no hemorrhages or exudate. Dr. Sneller reported evidence of ethmoiditis with some mucopurulent nasal discharge. The throat was still sore and whitish adherent membrane was noted at the mouths of a few crypts. This membrane extended down into the crypts. No diphtheria bacilli or Vincents angina organisms were present.

On August 11 she complained of tightness in the chest and coughed a great deal without production. The lungs were negative. On August 12 her face was swollen, more prominently around the eyes. The urine contained a trace of albumin, no casts, 25 pus and 10 red cells per field. On August 17 she passed a few clots, of bright red color, in stool. There was noted the presence of a fine papular red rash on abdomen and back August 14.

Patient was discharged from hospital September 13 with blood count of 4,000 white cells, 44% polymorphonuclears, 41% small lymphocytes, 15% large lymphocytes. Since her discharge on September 13 she has been kept under observation and her general condition has shown gradual improvement. She has, however, complained of easy fatigability and intermittent sore throat. Her leukocyte count has never returned to normal, except on August 7 when it reached 7,800 with

75% polymorphonuclears, 19% small lymphocytes and 6% large lymphocytes.

Schilling differential counts were made with the following results:

	On Sept. 3	On Sept. 21	On Oct. 7
Total	3600	3200	2600
Myelocytes	0%	0%	0%
Young forms	3%	3%	0%
Staff forms	11%	6%	2%
Segmented forms	19%	27%	10%
Basophilics	0%	1%	4%
Eosinophilics	0%	0%	1%
Lymphocytes	41%	54%	63%
Monocytes	26%	9%	20%

A summary of her blood findings from the time of her admittance to the present follows:

Date	White Count	Granulocytes	Small L.	Monocytes	Red Count	Hæm.	Platelets
Aug. 2.....	1300	50%	44%	6%			
Aug. 3.....	1000	11%	60%	29%	3,400,000	66%	Increased
Aug. 4.....	1800	40%	48%	12%			
Aug. 7.....	7800	75%	19%	6%			
Aug. 9.....	5000	81%	15%	4%			
Aug. 12.....	3400	82%	14%	4%	3,700,000	74%	
Aug. 14.....	3400	85%	11%	4%			
Aug. 16.....	2600	83%	12%	5%			
Aug. 19.....	5200	73%	22%	5%			
Aug. 21.....	2600	78%	11%	11%			
Aug. 23.....	2600	67%	22%	11%			
Aug. 26.....	2800	33%	58%	9%			
Aug. 28.....	1200	36%	50%	14%			
Aug. 29.....	...	...	...	...	4,080,000		
Aug. 31.....	2800	42%	41%	17%			
Sept. 2.....	3600	41%	44%	15%			
Sept. 4.....	3800	42%	44%	14%			
Sept. 6.....	3800	40%	47%	13%			
Sept. 9.....	4000	59%	27%	14%			
Sept. 11.....	4000	49%	33%	18%			
Sept. 13.....	4000	44%	41%	15%			Increased
Sept. 21.....	3200	37%	54%	9%	4,408,000	69%	Increased
Sept. 22.....	2000	29%	59%	12%			
Sept. 23.....	4200	30%	55%	15%			
Sept. 24.....	4000	31%	60%	9%			
Oct. 7.....	2600	17%	63%	20%	4,288,000	68%	Increased
Nov. 1.....	2800	52%	30%	18%	4,400,000	76%	Increased
Dec. 6.....	2600	54%	34%	12%	4,800,000	77%	Increased
Jan. 3.....	2600	34%	44%	22%	4,824,000	84%	Normal
Mar. 14*.....	1750	44%	52%	4%	4,520,000	70%	
Feb. 5*.....	2300	41%	55%	4%	4,370,000	79%	
May 6.....	2800	57%	25%	18%	4,560,000	77%	

The treatment of this case was rather fanciful. She was given bone marrow, yeast and a diet stimulative to the bone marrow, such as red meats, liver, fruits and vegetables. Leukocytic extract and sodium cacodylate were tried. In September, when a relapse took place, she was given two x-ray treatments over the long bones by Dr. Perry B. Goodwin, following the technique of Friedman. Whether or not any of these measures did any good, I am unable to say. The

*Counts made by Dr. B. B. Sory, Jr., Lake Worth, Florida, who reports bleeding, ulcerated hemorrhoids, and intermittent sore throat during a two months' rest in the South.

case has made an apparent clinical recovery and with the exception of some fatigue is enjoying good health. The persistence of leukopenia and granulocytopenia, however, may forewarn a severe relapse at some future time.

Summary: The entire subject of agranulocytosis is reviewed. A case is reported having the following characteristics:

1. A middle aged woman with negative past history excepting ethmoiditis.
2. Fever, increased pulse rate, marked prostration, mild delirium.
3. A follicular tonsillitis with slight necrosis around the crypts; stomatitis, fetor ex ore.
4. Slight cervical adenopathy with tenderness and dysphagia.
5. A mild jaundice.
6. Nausea, vomiting, abdominal pain, diarrhea.
7. Enlarged spleen.
8. Absence of hemorrhagic diathesis.
9. A marked leukopenia of 1,000 with 11 per cent. granulocytes, a relative lymphocytosis and negative blood culture.
10. A slight secondary anemia of short duration with continued increase of platelets.
11. An apparent clinical recovery, but persistence of leukopenia and granulocytopenia after 10 months.
12. The question of chronic ethmoiditis as an etiological factor and cause of the persistent blood picture to be considered.

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DISCUSSION

Dr. Warren Pearce, Quincy: Dr. Parker's paper is most interesting and his review of the literature on this subject, commanding so much attention at this time, has been very complete. Considerable uncertainty exists as to whether or not this condition is a definite disease entity. Many clinicians regard it as a symptom complex resulting from an over-powering infection. The opinion has been advanced that it is a hereditary inability of the bone marrow to produce the granular cells. Certain case reports, however, have made this hypothesis untenable, notably the case reported by Call, Gray and Hodges, referred to by Dr. Parker in his paper. In this case the patient recovered and the blood returned to approximately normal. There is only one constant in agranulocytosis, viz., the absence, or almost complete absence, of granular cells in the blood. Schultz, himself, objects to the term agranulocytic angina, stat-

ing that the angina does not always occur early, frequently occurs late and at times is not present at all and has no etiological relationship.

Blumer has very recently reported a group of cases—in four of which, either the teeth or gums were involved and I should like to refer very briefly to a case in my practice, in which there was such involvement. It is of some interest since the patient was a child and very few cases have been reported in children. This case will be reported in detail elsewhere. The patient was a male, aged five years, who was brought to my office by his mother, who did not consider him ill but had noticed a slight swelling in his submaxillary region the day previous. Physical examination was negative with the exception of an enlarged submaxillary gland and a small tumefaction of the gum at a corresponding location. The temperature and pulse were normal. The following day the boy became acutely ill and died within thirty-three hours from the onset of the acute symptoms. The erythrocytes numbered 3,750,000; the leucocytes 3,200, with total polymorphonuclear cells six per cent.—all segmented. The hemoglobin was seventy per cent. X-ray of the chest was negative in all respects. The thymus was not enlarged. The urine and spinal fluid were negative. Blood culture was positive, a short chain streptococcus being present. (Blood cultures have been positive in many reported cases.) Permission for autopsy was refused. The gland was removed, however, and the examination disclosed a lymph cell hyperplasia.

Dr. N. S. Davis, III, Chicago: I would like to cite two cases seen during the last few years. One was a man whom I had had under treatment for some time because of chronic constipation and hypotension. His systolic pressure was 85 or 86, a case such as was described by Kendall at this meeting last year. About a year before his final illness he had a Vincent's angina, ulcers in the mouth, which cleared up promptly. He developed an acute sore throat with fever. The sore throat persisted and he came to the hospital, where we found an agranulocytosis. He developed dry gangrene of the perineum and of one extremity and died about a week after onset of the symptoms. The other case was a janitor seen last fall. For several weeks he had been getting weaker, with loss of appetite and a little temperature. Physical examination was negative except that the spleen was enlarged to percussion and palpation. The throat was negative. There was nothing to account for the temperature. He went down hill steadily and died after a couple of weeks in the hospital. Postmortem findings were essentially negative except for the condition in the lymph glands and spleen, as described by Dr. Parker. It looked like sepsis agranulocytica. Every once in a while we get a case for which this seems to be the only explanation. It is just the description of a symptom complex and not a distinct disease, because the etiology is decidedly varied in various cases.

Dr. S. E. Munson, Springfield: On account of a very unusual case of leukemia, which came under my observation last winter, on which some studies are still

being made, I reviewed some of the recent literature on agranulocytosis. I think the thing that is much needed is greater study and observation to determine the probable cause of the leukocytosis in this disease. Probably many cases have been unrecognized and have died of what was considered septicemia. I think this splendid presentation brings before this section a very excellent conception of this disease, so that we will probably have more cases studied and reported in the future. In this way it will be determined what peculiar reaction to infection causes the change, which brings about the condition of granulocytopenia.

Dr. L. D. Snorf, Chicago: I would like to take the opportunity of mentioning one instance of what I consider a true agranulocytosis. I shall not discuss the course of the patient's condition except to mention one or two things. The onset, and the progress throughout the acute infectious stage was very similar to that described by the various authors. The individual loses weight, there were 280 white cells with 4 per cent. granulocytes. The therapy I dare say had nothing to do with making the patient well. We used everything mentioned in the literature, and finally the man made a satisfactory recovery in spite of the therapy. The thing that is important was that it required about six weeks before the blood count got back to beyond 3,000. Over a period of four months it never rose above 4,000. That count was taken in various parts of the country by different men in different towns, because the patient was very much interested in his condition. He then came back with the idea that tonsillectomy would be a valuable thing. He had had a sore throat at the beginning of the condition, and this I think I did not give sufficient consideration to, and rather tolerated the idea of having a tonsillectomy, knowing about the blood count of 4,000 and the continuous depression of leucocytes. The tonsillectomy was done by a very excellent surgeon. The course was not unusual for six days, then he began to run a temperature which gradually rose, with depression of the polymorphonuclears, and the white count under 4,000 gradually coming down to 2,000, and he succumbed to what was apparently an agranulocytosis. There was no evidence at any time of a septicemia, though the picture was that of a septicemia in a general way. I wonder after all if agranulocytosis, as we call it, is a disease entity, and evidence of paralysis or depression, or a congenital condition of the bone marrow; and whether we are justified in following Friedman's contention that it should not be diagnosed as agranulocytosis until the cells are below 2,000. Here is a case with 4,000 coming down to 2,000 following trauma. It makes me feel that we should pay close attention to the blood count in these leucopenias, and particularly pay attention to the defensive count in these leucopenias with sepsis.

Dr. George Parker, Peoria (closing): Dr. Snorf mentioned the possibility of agranulocytosis being a congenital condition. There is one strong argument against it—the fact that more cases do not occur in infancy and childhood. In this period of life, many common diseases such as scarlet fever, measles, diphtheria,

and the like are contracted; yet agranulocytosis is uncommon.

Another point raised by Dr. Snorf is the advisability and danger of operation on such cases. His report of a fatality after tonsillectomy is of considerable importance. The case I have just reported has had a tonsillectomy recently at a clinic in another city; and I shall be interested to see whether or not the same fate awaits her.

From a prognostic standpoint the remarks of Dr. Pearce are significant and should teach us that the discovery of necrosing and ulcerative lesions in the mouth or elsewhere should be accompanied by a careful study of the blood before a prognosis is given.

TULAREMIA WITH REPORT OF TWO CASES

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Prior to 1924 tularemia was considered a rare disease, only fifteen cases having been reported in the United States. In 1928 800 cases were reported and in Illinois alone during 1929 there were thirty-six cases, and from January to June, 1930, a similar number. Undoubtedly there have been more cases but they have not been recognized. At the present time tularemia is a reportable disease in the state of Illinois.

Tularemia is an infectious disease caused by the *Bacterium tularensis*. In animals it occurs as a fatal bacteremia, but in man it results secondarily from direct contact with the tissues or body fluids of an infected animal, or indirectly from animal to man by certain ticks or flies. In man it has never been transmitted from cooked food.

The disease has its seasonal incidences east and west of the Mississippi River. East of the River it usually occurs when the rabbit is permitted to be hunted and marketed, that is, November to January. West of the Mississippi it occurs usually from June to September, when due to deer flies, and from February to October when due to tick bites.

It has been transmitted by deer flies, rodents, muskrat, opossum, woodchuck, rough grouse, blue grouse, quail and sheep.

Tularemia manifests itself in man in four clinical types, and the incubation period is from one day to one week. The three most common clinical types are:

1. *Ulceroglandular type*. This is the most common form. A primary papule develops at

the site of inoculation, usually on the finger or hand. Two to four days later the patient complains of grippe-like symptoms—fever, chills, profuse sweats, pains in back or extremities, temperature 103 to 104, and marked prostration. These symptomatic manifestations of infection persist for two to three weeks.

The papule rapidly becomes swollen and painful, and suppurates in the middle, discharging a necrotic core and leaving a slowly healing ulcer. The ulcer varies in size from one-fourth to one-half inch, is sharply circumscribed with an elevated reddish periphery and a grayish red necrotic base. A lymphadenopathy, resembling sporotrichosis, develops in the regional lymph nodes draining the site of inoculation, the glands varying in size from a bean to a walnut, and the ones distal to the site of inoculation being the largest. In my two cases herewith reported, the axillary, supra- and infraclavicular glands were greatly enlarged. The glands remain enlarged for two to six months and need not be incised unless suppuration is present. Incision of the primary lesion is futile because the lesion is a granuloma.

Convalescence usually is very prolonged.

2. *Oculo-glandular type*. The primary condition is a conjunctivitis with lesions on the palpebral conjunctiva and with an enlargement of the regional lymph nodes. The symptoms are those of a severe conjunctivitis, and generalized, as in the ulceroglandular type.

3. *Typhoid type*. This variety presents no primary lesion and rarely a glandular enlargement. Fever is the outstanding symptom, and the remissions are usually accompanied by profuse perspiration.

Most of the cases occur among laboratory workers. It has been shown experimentally and clinically that the germ may pass through the unbroken skin.

Blood Findings. The blood findings of a tularemia infection are not characteristic except for agglutination. The leucocyte count varies from 10,000 to 15,000. The agglutinins are absent during the first week, but occur during the second week and reach their maximum from the fourth to the seventh week (1:1280 or 1:2560). There is then a gradual decline, although agglutination has persisted for twenty years.

Diagnosis. First, keep the disease in mind.

Look for a history of contact with transmitting animals, insects or birds.

Second, influenzal symptoms.

Third, glandular enlargements—sporotrichosis-like.

Fourth, agglutination test. Collect four to five cubic centimeters of blood as for a Wassermann test and send to the nearest State Bacteriologist.

Treatment. The treatment is primarily prophylactic and then symptomatic.

(a) *Prophylactic:* All persons handling wild rabbits should wear rubber gloves. Hunters, farmers and butchers should be warned about the danger of infection.

(b) *Symptomatic:* The treatment is purely symptomatic, as no specific vaccine has been developed as yet.

CASE REPORTS

Mr. A. K., aged 43 years, by occupation a butcher. While selling rabbits he does not recall whether or not he pricked or scratched his left index finger, but on November 29, 1929, he was suddenly taken sick with severe body pains, chills and fever. He treated himself for several days for a "cold." When first seen by me on the sixth or seventh day he had a temperature of 102°, was prostrated and bed ridden.

Physical examination was negative except for a circumscribed area of suppuration on the dorsum of proximal phalanx of left index finger. A sporotrichosis-like lymphadenitis was present on the left upper extremity.

During the second week the area of infection on the finger developed an ulcerated appearance, about three-eighths of an inch in diameter. The ulcer gradually healed from the third to fifth week. The glands in the axilla became markedly enlarged and the supra- and infraclavicular glands more so, the latter the size of a lemon. During the third and fourth week the infraclavicular glands suppurated and had to be incised. During the third and fourth week blood was withdrawn from the patient's basilic vein and an agglutination of 1-320 was reported.

The patient made a slow recovery. Six months after the onset a glandular enlargement was still present but of a perceptible degree.

The second case is that of Mr. Charles K., aged 41, also a butcher. He was taken sick on November 30, 1929, with symptoms of influenza and a temperature of 103°. On the third or fourth day he developed a severe cough. During the second week he became delirious.

He was first seen by me during the latter part of the second week, having previously been treated for pneumonia. Physical examination revealed a delirious, markedly prostrated and emaciated man, the emaciation being due to his profuse sweats and dehydration. Temperature was 104°. The lungs showed evidence of a

bronchopneumonia. There was a marked lymphadenitis on the upper left extremity. On the dorsum of the left thumb at the distal interphalangeal joint, a dirty ulceration was found. Prior to my seeing him the thumb infection had been treated by hot applications.

The delirium subsided during the third week and a history was then obtained, that two or three days prior to the onset of his illness while skinning rabbits he had scratched his left thumb. The infected area became quite sore and then the glands enlarged. During the latter part of the fourth week the blood showed an agglutination of 1-640.

In May, 1930, his glands were still markedly enlarged.

This case differs from the first case in that although the patient had more severe generalized symptoms, the local manifestations were not so severe. In neither case were the fingers swollen commensurately with the glandular enlargements, or as we would expect when due to pus-producing germ infections.

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TULAREMIA WITH CASE HISTORY

HARRY R. KEISER, M. D.

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Tularemia is often called Frances' Disease. Frances classifies the disease into three types:

1. Ulcero glandular.
2. Oculo-glandular.
3. Typhoid.

Up to 1924 only 15 cases were reported and since that time over 800. Ohio is the state having the largest number—92. Simpson alone reported 64 in Ohio. In Russia in 1928 there was an epidemic of over 200 cases. The natives were catching water rats for fur during a flood and thus contracted the disease. In Japan there have been many cases and they were called O'Hara's Disease.

Many animals, such as rats, mice, sheep, opossums, muskrats, rabbits and wood chucks, carry the disease. The dog is an exception. The disease is transmitted by blood sucking organisms such as the wood tick (most common) and the deer fly.

B. Tularemia is a gram negative, non-motile coccus bacillus that grows on cystine-glucose agar. The blood will often show a positive agglutination test several months after the original infection.

Pathology: Enlarged regional lymph nodes, with multiple yellowish-white foci of necrosis in spleen and liver. Subcutaneous abscesses along lymphatics. Necrotic nodules in the lungs.

Microscopic Pathology: Wall of abscess shows

multiple foci of caseous necrosis, surrounded by epitheloid and fibroblastic granulation tissue, containing many giant cells of the Langhans type together with diffuse lymphocytic and polymorphonuclear infiltration.

Summary:

1. History of butcher injuring finger and then skinning rabbits.
2. Original lesion—enlarged lymph nodes.
3. Constitutional symptoms: Generalized malaise, anorexia, chills, fever, muscle and bone aches, etc.
4. This patient had an involvement of his lung.
5. The tendency is often to call most anything the influenza without trying to make a positive diagnosis.
6. With winter returns the use of rabbits for food, so it is well to be on the alert. Tularemia is a world-wide disease and therefore not so uncommon if really looked for and correctly diagnosed.

CASE HISTORY

Patient J. Z. White, male, aged 33 years, a butcher by trade, and having a past history essentially negative except for lobar pneumonia in 1919.

On Dec. 3, 1929, the patient stuck his left thumb with a knife, apparently just puncturing the skin. The wound bled very little, some tincture of iodine was applied, and he continued working, no dressing being used.

Dec. 5 he dressed fifty frozen rabbits. His thumb was not sore, so he gave it no further attention.

Dec. 8, about 11 P. M., his left thumb began to pain and throb and he noticed that it was becoming red and swollen. He bathed it in hot boric solution for one hour and later fell asleep.

The following day he went to work but did not feel well. He noticed, in his left arm pit, a small lump which was not tender. His condition grew steadily worse until 11 A. M. it was necessary for him to quit work. He was then suffering with a severe headache, mild chills, and felt as if he had a fever. A physician was consulted, who diagnosed the condition as influenza and sent him home to bed. Hot applications were recommended and used on the swollen thumb. The patient complained of a severe sore throat on the following day, associated with pain in the left side of his chest, which was more marked on inspiration, and sharp and knife-like in character. There was some hemoptysis present. Constipation was also present with considerable abdominal distention and gas. Toward evening of the fifth day following inoculation the patient became comatose. His physician was again consulted and prescribed more medicine for the flu. The acute stage of the illness persisted for seven days, after

which time the fever dropped and the patient began to show signs of recovery.

On Dec. 20 the infection of the left thumb broke down and discharged white pus for about one week. The mass in the left axilla increased in size, becoming more tender and painful.

The first part of January, the patient sought medical aid at a prominent hospital because of no marked improvement in his condition. At this time he noticed several small nodules under the skin on the medial aspect of the left arm and forearm. The patient was again informed he would soon be all right and was told to continue the use of hot applications to the left thumb.

The patient next noticed several small red spots appear on the thumb around the old lesion. These became hard, elevated, and would break down discharging pus.

On Jan. 24 the patient came to the Central Free Dispensary. Examination revealed an emaciated white male, complaining of a cluster of hard glands in the left axilla, larger than a hen's egg. On the medial aspect of the arm and forearm were four pea-sized nodules along the course of the lymphatics from the thumb to the axilla. These nodules were hard and freely moveable. There were also three red papules and a pustule on the distal phalanx of the thumb. Many moist rales were present in the left lower lobe of his lung but there was no dullness nor friction rub. Heart and abdomen were negative and the liver and spleen not palpable. A blood specimen was taken for agglutination test, which was returned positive 1/640 for B. Tularemia.

Feb. 7, the axillary glands were incised and drained, discharging about 50 c. c. of a thick gray-green pus. The patient was given a general tonic and advised bed rest for another week. The axillary glands soon stopped draining, the rales disappeared from the lungs, the anorexia improved, and his general condition soon showed a marked change, regaining his former weight and strength.

2260 Devon Avenue.

CHRONIC OTORRHEA*

W. P. WHERRY, M. D.

OMAHA, NEB.

An invitation to appear before this society is a distinct honor, and I, herewith, sincerely express my appreciation. I have, however, the rather subtle thought in my mind that perhaps your chairman was actuated by some ulterior motive when he assigned the subject to be presented. Chronic otorrhea has never been one of my hobbies.

It seems proper to confess at the outset that

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I am in doubt as how best to approach this discussion, since an address requires a careful digest of the available literature, which obviously is impossible in the time allowed. To present an original thesis requires an individual research premise, which in my instance, unfortunately is lacking. Your Doctor Shambaugh recently said:

"Show me a physician who has a long repertoire for treating chronic suppurative otitis media, and I can usually show you a man who has a confused idea regarding the pathology of these cases, and no clear idea of principles which must guide efficient treatment."

Knowing that I am within the confines of Dr. Shambaugh's home environment, obviously again I find myself laboring under a frank repressant. Further, in reviewing the literature and checking over my experiences, I am rather of the opinion that very few new ideas presented in the last decade have proven the test of time, and I find my concept of the subject much as it was several years ago.

Considering chronic otorrhea in the large, we see it as a graph of rising and falling opinions, fads, and foibles, disappearing as on some gigantic film. But in that irregular movement, certain real advancements stand out as peaks in a true scientific atmosphere, advances which once made are not forgotten. Accepting this theme as a premise, may I present, panoramically, so to speak, my impressions of this problem, the essential factors to be evaluated, the high points, in part, at least, that have proven of merit in my practice, and upon which I depend for a successful outcome in the main.

The study and control of chronic otorrhea presents a most complex problem. Many factors enter into the story, not only in the treatment, but also in the survey that must be made in establishing the etiology and the probable reasons for a continuance of the pathologic state. Scientific medicine hardly accepts the mere statement of a discharging ear as sufficient evidence from which to establish a final diagnosis, much less to warrant the development of a program of treatment. Aside from the abstract discharge, the presenting symptoms of extension into adjacent structures must be analyzed to determine whether this extension be within the mastoid area alone, the internal ear or the brain. It is necessary to know the status of demonstrable

reflexes and other physical errors, not the least of which are sometimes cardiovascular changes. To accomplish this end, oftentimes consultation must be had with the ophthalmologist, the neurologist and the internist. I know of no pathologic state in the head section that requires more persistent study than chronic otorrhea.

In this connection, and as a part of this diagnostic survey, accurate knowledge must be had of deviations from the normal condition in the nose and throat. The presence of pathology here can, not only be causative, but also may minimize the effect of the aural treatment instituted. This menace arises both from surface contamination and from a lymphatic block—since to block the pharyngeal lymphatic chains of nasal origin, must conjointly limit these resisting agencies in the ear.

The work of Dean, Jeans, Marriott, Shurly, and hosts of other writers have proven very definitely that diet deficiency, improper home environment and errors in personal hygiene, are positive causal factors, and when present, must be considered in the final diagnosis, since from the diagnostic survey is constructed the plan of treatment.

In building up then the final diagnosis, gathering together the aural findings, and the relevant factors, an experienced operator realizes that to put the house in order is of primary importance, discounting the presence of an emergency, of course, and that treatment directed to the ear is of secondary importance, until this primary necessity has been accomplished.

I am constrained here to mention rather tersely the evident hearing loss. I have marveled in many of the cases coming to me just how little attention has been given this symptom. To me its accurate determination is of great importance, not only in estimating the areas involved, but also the consideration it should receive where the question of medical or surgical interference is debatable.

A syphilitic taint is not an unusual factor to be reckoned with in the treatment of chronic otorrhea, and although it is not always convenient to run routine Wassermanns, yet a careful audiometric reading will sometimes afford the necessary suggestion and warrant further investigation.

Aside from what has already been mentioned,

to discuss methods of diagnosis before an audience such as is present here, would be academic.

That medicine is being standardized there can be no doubt, perhaps in some instances to an unwarranted degree; and yet out of this movement has come many valuable steps forward and even some epoch making rules of procedure. One of these new standards pertains to the art of diagnostic pathologic expression—condensing, so to speak, a lot of information in a few words and yet telling the story. Along this line, and just as we are now rapidly typing many other diseases into grades 1, 2, 3, 4, so with chronic otorrhea I have been using the following classification in expressing the pathologic state of a given case.

GRADE 1

- A. Mucoïd type of eustachian tube origin, with a secondary middle ear involvement.
- B. Periodic in character.
- C. No particular interval changes in the drum membrane.
- D. No particular pain during exacerbation.
- E. Positive interval drum membrane changes, alteration in tone, retracted—noted as one plus.
- F. Positive pain during exacerbation noted as two plus.

GRADE 2

- A. Absence of part or all of the drum membrane.
- B. Presence of seromucoid or mucopurulent discharge.
- C. Periodic exacerbations.
- D. Only moderate hearing loss.
- E. No particular evident pains.
- F. Positive hearing loss noted as one plus.
- G. Positive pain during exacerbation noted as two plus.

GRADE 3

- A. Absence of all or part of the drum membrane.
- B. Purulent discharge.
- C. Granulations or simple polypoid changes.
- D. Ossicular necrosis.
- E. Saprophytic odor noted as one plus.
- F. Moderate hearing loss noted as one minus.
- G. Positive hearing loss noted as two plus.
- H. Possible extra aural extensions noted as three plus.

GRADE 4

Grade 3 with symptoms of extension

- A. Labyrinthine
- B. Cholesteatoma
- C. Intracranial

The abstract necessity of committing one's opinion to a positive classification prompts more than ordinary care in diagnostic technic: satisfies, as stated, the trend of modern expression

and above all clarifies one's records, not only as it applies to future observation, but is the more readily understood by an associate observer.

Having coordinated the facts and established the diagnosis in its entirety, I have found it an advantage to sit down and talk the situation over with the patient. There is a lot of psychology around a discharging ear; often times the patient has already interviewed other otologists, has had various systems of treatments tried, or perhaps has been advised by some altruistic friend of the intracranial possibilities. It is, therefore, necessary to know what attitude the patient has assumed and the opinion he or she has come to. Where the patient has very positively decided that surgical interference is necessary, and the pathologic state has been determined as grade 3, one, two or three plus, the otologist can hardly do other than advise surgery. On the other hand, if the patient exhibits the desire to follow what seems to be the best judgment of the examiner, then the otologist can, with propriety follow less strenuous measures. In other words, a firmly fixed fear complex in the mind of the patient is a definite symptom and must be given due credence in the final advice. There is no doubt in my mind but that many good ears have been saved from unscrupulous hands, where the otologist, feeling that he could not handle the case and follow the dictates of his conscience, has called in the services of a good neurologist to control the emotional state of his patient.

The treatment of chronic otorrhea is always medical, with surgical intervention, only as a part of the general program—the medical phase applying before and after; even in the presence of grade 4 pathology, which obviously is a surgical complex.

The time allotted me does not in any way permit a detailed discussion of the medical treatment. So many remedies have been presented to the profession, so many different types of technic, that I am constrained to follow my original intent, namely, stick to my practice. It is advisable, however, to keep in mind as many of the methods recommended as you can, since it has been my experience that no one system of treatment is always sure.

Regardless of the method to be used, the operator should realize the purpose of medical treatment, namely:

1. The elimination of necrotic areas.
2. The control of granulations.
3. The conversion of an unhealthy mucosa into as near a normal physiological mucous membrane as possible.

The elimination of necrotic areas can only be done with instrumentation, and then when seen.

The control of granulations, I have found, has been best handled with Silver Nitrate 40% to 60% in the simple type, and chromic acid or an actual cautery in the more frank type, often times repeatedly done.

The development of a normal physiologic mucosa usually offers the greatest difficulty. In this instance I have almost settled down to the instillation of 1/2% carbolic acid in benzoinol, used in the eustachian tube followed by gentle inflation. Gently packing 5% mercurochrome in the alcohol base well into the middle ear and leaving for an hour is often beneficial. I usually prescribe for home use alcohol containing ten minims each of carbolic acid and tr. iodine to the ounce. This routine assumes, of course, that the pathologic status of the adjacent parts as well as other relevant factors have been corrected, particularly where gentle inflation is to be used.

Powdered boric acid has been insufflated into the ear and allowed to disseminate. Seemingly satisfactory results have been obtained in selected cases, however, I have observed several rather awkward exacerbations excited by this method, where crusts of boric crystals were allowed to accumulate.

The instillation of ether through the canal directly into the aditus and middle ear, has had, it seems to me, a fair percentage of satisfactory results.

The use of iodine dusting powder, after the method of Sulzberger has been strongly recommended by Dr. J. C. Beck and others. My experience with this method has been too limited as yet for comment.

Mucidan and innumerable other agents could be mentioned.

Although unsatisfactory at present in my hands, I cannot help but feel that serology should have a place in the treatment of chronic otorrhea, particularly where the process is confined to the mucous membranes and drainage has been properly maintained. I am reasonably sure

this phase of our treatment armamentarium will some day be better understood, particularly as our knowledge of the reticulo-epithelial defences increase and we appreciate more fully that the original causal factor need not be a direct reaction to a primary infection, but rather visualize the infection as an implantation upon a mucous membrane already reacting to an irritant having a selective affinity for the part—call it lowered resistance, familial, individual, whatever you wish. Just as we think of the threshold of tolerance in allergic manifestations, so we can parallel a threshold of tolerance within the middle ear to insults from without. Proper appreciation of such an hypothesis should permit the application of sound serologic treatment.

I have found the use of aqueous solutions harmful, and only use them when absolutely necessary for cleansing purposes. It is surprising how nicely a cavity can be cleared of discharge with a wick of cotton. The pressure usually exercised where cotton wrapped on an applicator is used and the forceful irrigations of aqueous solutions, may not only retard epithelial growth, but can easily destroy the little surface epithelium remaining, which is so desirable for defensive purposes.

Irrigations are also a potential agent of infection spread. Years ago it was a common practice to irrigate the aditus, using a curved canula. I have had, and have seen, many unfortunate sequelae develop from this practice.

In the American scheme of things, we are supposed to attain end results as quickly as possible, therefore, periodic progress rechecking becomes necessary. In this connection then, a conscientious medical treatment followed for a reasonable time without results prompts surgical interference.

If an *acute otitis media* discharges profusely for three weeks, it is a safe policy to operate. No such specific rule of time ever pertains in chronic otorrhea, here, too many variables can be present, for instance, correcting adjacent pathologic sites obviously will require time. However, if a few months of consistent careful treatment demonstrates no change in the aural state, and in the presence of a marked hearing loss, as stated above, surgical interference is to be thought of.

The question of continuing medical treatment

is sometimes determined by the nature of the patient in hand, since we must realize there are two types of practice, particularly in the larger cities, namely, the dispensary class and the private patient. This economic principle must be remembered. Time and the opportunity of following through consistently is most essential in the conduct of chronic otorrhea. In the dispensary type, this assurance is improbable, and a surgical judgment is sometimes advisable as contrasted to a non-surgical program in a different environment. By dispensary practice, of course, is meant the type of individual, whether he be in your office or in the dispensary.

If a cross section of the literature appearing in the last few years is carefully scrutinized it seems to present a more conservative trend in the surgical attitude. Modified radical interference apparently is the operation of choice; it being argued that a complete radical can always be done later if necessary. I feel this is good logic, providing, of course, that accurate diagnostic skill has been used. The correction of the essential error, pathologic, as well as environmental, other than the ear itself, has not only inhibited the number of cases, the virulence of a given case, the chances of spread, but has also given a better opportunity for modified radical surgery to be sufficient. I realize this statement may seem rather empirical, offering a splendid opportunity for criticism, however, results obtained warrant the opinion.

A discussion of the relative merits of each of the many types of operative interference is hardly within the province of this paper, however, suffice it to say that if surgical intervention is indicated, the technic should be sufficiently radical to thoroughly remove all pathologic sites so that subsequent epithelization will be possible over the operated field. Just whether this dictum means an ultra radical or a modified radical rests with the judgment of the operator. Permit me to state, though, that in my travels of late, substantiating the thought expressed elsewhere in this paper, I have rarely seen an ultra radical, except in the truly dispensary type of patient.

The Tobey revival of the old ossiculectomy has been recommended. I hardly feel warranted in discussing this suggestion, since my experience of twenty years ago was unsatisfactory with that

method, and I have had no experience with the Tobey modification. In passing, permit me to say that I have seen Tobey operate and my conclusion was that the technic was more difficult than the usual radical and the insufficient field for observation did not offer the exact interpretation desired.

Extensive bone destruction, presence of cholesteatoma, oncoming neurological symptoms, sufficient to warrant a possible diagnosis of brain involvement, necessitates surgical intervention. When labyrinthine symptoms are marked, surgical *drainage* becomes rather desirable. I use the word surgical drainage advisedly, since there seems to be considerable doubt as to the safety of radical exenteration in this instance.

In the aged, and in the absence of definite symptoms of extension into dangerous areas, surgical intervention is contraindicated. Whether a latent extension is converted into an active process, or whether an extension is invited, through already lowered resistance of the parts, matters not, since statistics present a high mortality in this type of patient.

A frank polypoid degeneration showing in the aural canal, suggests surgical intervention. Here, however, the potential danger of latent labyrinthine involvement must be kept in mind, and the operator should have as clear a concept of the situation as is possible to secure. Should there be doubt in the preliminary study, radical surgery is more desirable than simple removal of polypi, particularly if the patient is in middle life.

On the other hand, many cases presenting aural polyps are of lower middle ear origin, and can be safely removed through the canal; the base curetted and cauterized with satisfactory results.

The abstract presence of a cholesteatomatous odor does not always mean that surgical intervention is necessary. I have had many such cases, seemingly cured medically, and the explanation probably is a small area only was involved, undoubtedly in the fundus or some pocket in the aditus which could be reached through the middle ear.

In conclusion it is well to consider chronic otorrhea as a question to which there can be several correct answers around which the variables equal the constants and the treatment of which

is directed as much to the relevant factors and the variables as to the ear itself.

Furthermore, we must assume, in the absence of proof to the contrary, that in a healed case stratified, as contrasted to ciliated epithelium, is present, which obviously increases the potential susceptibility to reinfection.

Medical Arts Building.

MILK SICKNESS*

WILLIAM E. WALSH, M. D.

MORRIS, ILLINOIS

It has been definitely proven that "Milk Sickness" is a disease that occurs in humans who drink the milk or eat the butter from apparently healthy cows during the time when they are eating white snake root.

Cattle that eat white snake root may get a disease that is called "Trembles" on account of the way in which they tremble, fall down convulsively and may die after taking exercise.

"Milk Sickness" or "Milk Sick" has been known to exist in America for one hundred and fifty years and has caused the deaths of hundreds of humans and tens of thousands of cattle. At the present time white snake root is distributed in many of the woodlands along the creek bottoms and rivers of all the eastern Mississippi valley, including Illinois, Indiana, Ohio, Kentucky, Tennessee, the southern part of Wisconsin. It grows in east Iowa, Missouri and Arkansas, in the north part of Mississippi, Alabama, Georgia, also in South and North Carolinas. In my opinion there are hundreds of cases of "Milk Sickness" every year in this large area and there are dozens of deaths which are recorded on the death certificates as diabetic coma, uremic coma or ptomaine poisoning.

Every State Board of Health in this area has been asked "How many deaths have been recorded from 'Milk Sickness' in the last ten years?" Not a single death recorded but newspapers reported three deaths in Illinois in 1925. In Grundy County there have been six deaths in thirty years, two in the last six months.

The trouble with "Milk Sickness" is it happens in out-of-the-way places along creeks and rivers where people object strongly to the diag-

nosis. The land owners give a history that there have been cases higher up and lower down the river but none here.

A diagnosis was made that a farm tenant had "Milk Sickness" and the landlord was indignant and belligerent. The husband of my last patient told me over the phone: "You will not need to come again; we have another Doctor." This was after I made a diagnosis of "Milk Sickness." The woman recovered but died in three weeks suddenly of "Milk Sickness." We had a post mortem.

Omitting the history of the disease and the histories of the investigations which have proven the above statements, we will confine ourselves to the description of a few cases with symptoms, pathology and treatment.

The following are typical cases:

Case 1. In 1902, three members of a family had loss of appetite, constipation, weakness and distress in the region of the stomach. One man apparently recovered, walked four miles. He became comatose that night and died the next day. His employer, a farmer, became extra busy with the funeral, he took sick with vomiting, constipation, nervousness, general weakness and pains, dying in three days. We had a post mortem, the first on record, complete with sections of all organs and inoculations of cultures, rabbits and guinea pigs by Dr. Sippy of Chicago. Tissues showed fatty degeneration, especially liver. No conclusions. We thought it must be an infection.

Case 2. In the city of Morris, Illinois, on November, 25, 1908, at eight o'clock A. M. I was called to see a girl eight years old deeply comatose, pupils widely dilated, extremities cold, labored breathing, pulse 116, but fair quality, the temperature in the rectum 97. She was unable to swallow. The breath was strongly sweetish. I made a diagnosis of diabetic coma. The mother gave a history that the child did not pass much water and did not have a ravenous appetite and that two weeks before she had had loss of appetite, constipation, slight vomiting, weakness in the knees, pains in the legs, headache and prostration. She had been given free catharsis for biliousness and a Doctor was not called. The patient was better in four days and went to school and continued in school until the day before when she had taken a large dinner and had become heated while playing. She told her mother that it was hard to go up the stairs at school. When she came home at 4 P. M., she had to rest on the way. She went to bed and refused food, vomiting every hour until four o'clock in the morning when she went to sleep. At eight o'clock her mother tried to arouse her but could not.

She was catheterized and no sugar found, but the urine gave a mahogany color with the addition of an aqueous solution of perchloride of iron, showing diacetic acid.

*Read before Illinois State Medical Meeting, Section on Medicine, May 20, 1930.

Other members of the family had been sick and especially the father had complained of weakness. He had the odor of acetone in his breath. "Milk Sickness" was then suspected. The butter they had been using came from a farmer in the "Milk Sick District" where white snake root was abundant. Patient died at 11 A. M. after an illness of eighteen hours.

At the post mortem assisted by Drs. Jordon and Harris the odor of acetone was very pronounced on opening the peritoneal cavity. Microscopically fatty degeneration of all the tissues was found. Two days after the death of the child the mother became extremely prostrated, with vomiting, distress in the stomach, pains in the back, constipation, headache, subnormal temperature and fast pulse. She had the diacetic acid and acetone of acidosis. Soda bicarbonate was given her in large doses. She was better in twelve hours. This is the first case of "Milk Sickness" treated on a rational basis.

This family in the city was poisoned by butter from the country. The family that supplied the butter had two members sick.

None of the cows that gave the milk were sick, but the white snake root was plentiful in the pasture and showed where it had been eaten by the cattle. Long before this the white snake root was suspected by pioneers.

This case report covers the whole field. It shows that butter may poison a town family. The cows may poison families to death and not show signs of illness. No wonder pioneer families by whom malaria and typhoid were accepted as a matter of course, fled back east in terror from this mysterious disease from which they died so suddenly. Their cattle and horses, apparently well, died after exercise and no one knew what it was.

Abraham Lincoln's mother died of it and they fled from it.

In the last twenty years it has been proven that richweed or white snake root was the offender by Crawford, Curtis, Mosely, Marsh, Wolf, Sackett, Couch and others. Couch of Washington, in 1929, separated from white snake root an oily liquid called tremetol that causes trembles in cattle and sheep.

Case 3. In 1921, a large woman, aged forty, was taken sick with all symptoms, sweetish breaths, acetone, constipation, deep breathing, distress in the region of the stomach. The white blood count was 7,000, diacetic acid and a trace of albumin in the urine, no sugar. With milk of magnesia and soda bicarbonate she recovered promptly. In two weeks she had a second attack similar to the first. In six weeks after her second attack, she had a third and more severe than the two first, becoming semicomatose. She was prostrated for

a long time after recovering. We gave her soda by mouth and enemas of soda. Diet was Karo syrup, orange juice and skim milk.

Case 4. In 1925, a man of fifty years had four relapses in one year and two months. All attacks were typical, the odor of acetone was strongly detected in the room, diacetic acid in the urine, no sugar. Traces of albumin at times, pulse variable, white blood count low and blood sugar low.

On this case Dr. W. Henry Wilson made a liver function test. Liver function found one-third of normal. Glucose intravenously immediately relieved his weakness of legs and his exhaustion.

Blood sugar has been slightly low in three cases and normal in one.

In the three post mortems held by me the livers have all had extreme fatty degeneration and it was the only pathology that could show cause for death. While the cows are eating white snake root and giving milk they are becoming poisoned themselves and also poisoning those that drink the milk or eat the butter. This may be a slow process and neither the cows nor the people show any symptoms nor would they show any symptoms except vigorous exercise was taken. This might happen during the time that they were eating it. The cows after exercise will commence to tremble, fall down sometimes and die inside of a day and sometimes recover. The same way with people; it may be a month or longer after the poison was taken that the sudden severe sickness comes on after exercise or as in one case after the excitement of having a tooth pulled.

The symptoms are the same as diabetic acidosis. The important difference is that there is no sugar in the urine and the sudden onset without the history of thirst and hunger. The patients have had a large part of their liver substance destroyed by the snake root poison, first granular degeneration and then fatty. The liver has lost its power to store glycogen, the dextrose reserve, as its cells were found to be fatty in the three post mortems. This condition exists without any symptoms except being easily tired until some extra strain was put on the muscles or an extra amount of chemistry taking place. The dextrose has been used up by the muscles and no reserve in liver to burn the fat. The insulin is present to combine the hydro carbon (fat) with the carbohydrate sugar but the sugar is wanting. In diabetes the sugar and fat are present but the insulin is absent. In "Milk Sick-

ness" you have the fat and insulin but no sugar. Blood sugar tests were taken after dextrose had been given. Some day we will have one before.

Most of the fatal attacks of "Milk Sickness" take place long after the poison from the snake root has been destroyed or excreted. The disfunction of the liver lasts for at least two years, but I believe recovery takes place to a large extent.

In a family of five where one became seriously sick the urine in two of the remaining four had diacetic acid with no symptoms and two of them did not show any. The diacetic acid quickly disappeared under treatment.

In a family of seven where five became sick, the mother had no diacetic acid in the urine at the first visit but at the end of the week after heavy work and worry she showed diacetic acid and symptoms followed. In all cases where "Milk Sickness" is suspected an aqueous solution of ferric chloride should be left in the house with a test tube and some one should be instructed to test the urine of the family every night and morning even after all symptoms have subsided.

The treatment consists of neutralizing the diacetic acid in the blood stream and supplying dextrose. The first thing given in all cases is an enema of one ounce of soda bicarbonate with two ounces of Karo syrup, 85% glucose, to the pint of warm water, repeated every four hours. If it is a severe case we give dextrose by the vein and in the two cases that we have used it we gave fifty cc. of the fifty per cent. solution of dextrose U. S. P. every hour at the same time continuing with the soda and glucose by the bowel. By mouth, give one dram of soda bicarbonate and one of milk of magnesia in a glass of pop or water with one teaspoonful of Karo syrup every two hours, alternating with orange juice or skim milk. For nausea and vomiting every two hours we give a powder which contains cerium oxylate, bismuth subcarbonate and chalk until relieved, either with the soda or alternating with soda. If I were called to a patient who was semicomatose with "Milk Sickness" I would wash out the stomach with a solution of bicarbonate of soda and give one tablespoonful of bicarbonate of soda and two tablespoonfuls of glucose to a pint of water and leave it in the stomach. The patient is so dehydrated

that they absorb a lot of water in the first twenty-four hours. Soda is kept up till urine is alkaline and I suppose it seems chemically wrong but I have had the reaction of diacetic acid in alkaline urine. Usually the pulse is a good quality, blood pressure is usually low, sometimes slightly high when comatose. The circulation compared with the rest of the body has always been good. We give all our medication with pop, it seems as though it is better retained. I am satisfied that ice cream is detrimental.

DEDUCTIONS AND CONCLUSIONS

That the poison that is absorbed from the milk and butter has a special affinity for the cells of the liver and that it must displace the glycogen in the liver or render the liver so it cannot store it. With the extreme acidosis the liver cells give up all their contents to the insulin and diacetic acid, fat is deposited in its place until the whole cell is pure fat.

When coma sets in the blood sugar must be almost nil, because no blood sugar test has been taken until after the treatment by glucose was started.

In one case the patient recovered, went out and became chilled. In a couple of days he developed a typical pneumonia. Glucose was given by the vein and he made a very prompt recovery. Could the diacetic acid in the blood and the glucose that was injected have helped to abort the pneumonia?

I feel that you must think it almost impossible that one individual in a small district like Grundy County could come in contact with thirty-eight cases in twenty-eight years and many more that were reported to me.

You gentleman can not realize what an extensive thing "Milk Sickness" is until you read its history where small settlements have been depopulated. In 1818, when Abraham Lincoln's mother died in Pigeon Creek, Illinois, that settlement was almost exterminated.

Hanson of Purdue University, Indiana, states that one-quarter of the early settlers in a section in Ohio died of "Milk Sickness" and in Dubois County, Indiana, in 1815 half of the human deaths were from "Milk Sickness."

DISCUSSION

Dr. W. H. Wilson, Joliet: It is a well recognized fact in medicine that one can make a diagnosis of diseases he knows, and not of those that he does not.

Many diseases have gone on unrecognized, as for example, undulant fever and tularemia. We know that they were diagnosed as something else until we developed a knowledge of the subject. I think that is true of milk sickness; the medical public is not milk sick minded and does not look for it. It is greatly to Dr. Walsh's credit that he has been alert enough to discover these cases.

It seems to me that the matter is first of all a public health problem, and that there should be some public health action taken. We still have this sickness prevalent throughout this section of the country. My familiarity with it has been fairly recent. Through Dr. Walsh I have seen some of his cases, and had the opportunity of studying one for a week or two for physiological pathology. His district is not different from any other in the central states and I think probably many cases go unrecognized. It should be a public health problem and should be cared for by some official body or bodies. I am rather inclined to think that it might be handled by the process of refusing milk from farms where this weed grows. If the farmer on whose farm the weed grows were excluded from the dairy market until his fields are cleared of the weed, he would benefit and the public would benefit. It is a question as to how much pathology it produces. The three autopsies all show albuminous degeneration of the principal organs. Functional disturbances were studied in one case between attacks. The urine is practically normal, output practically normal, although during an acute period the acetic acid and acetone were found. There may be some increased acidity in the urine. The blood sugar is subnormal. This patient had 70 to 75 mg. per 100 cc. whereas the average is 110. The sugar tolerance is normal. The urea in this case was a little high—82. Duodenal drainings of biliary tract showed no impairment of liver or gallbladder function. The blood sugar is low, and the blood sugar test would be of immediate value in making a diagnosis between diabetes and milk sickness. The liver's capacity for taking up levulose was greatly diminished.

Dr. Tom Kirkwood, Lawrenceville: This disease has been considered a curiosity, but when you go home ask the veterinary surgeon if cattle in your vicinity ever had trembles. In our country it is very prevalent. There are usually fifteen or twenty during the course of the summer. If this is so we are having milk sickness. It is my opinion that this condition has been occurring pretty regularly, and as Dr. Wilson said, it has been called diabetic coma, uremia, or something else. I have seen cases which I think were milk sickness, and I believe if we look into these cases with more care we will find many are overlooked.

Dr. S. E. Munson, Springfield: I would like to ask Dr. Walsh if there was not a paper read at the meeting of the State Society at Champaign, by one of the members of the Society, reporting several cases of milk sickness in both animals and human beings, in the vicinity where the Doctor was in practice, with grazing land infected by the snake root plant. This was called to the attention of the Department of Public Health at that

time. About five years ago this Department inspected quite a bit of territory in Central Illinois where the plant was frequently found.

NEUROLOGICAL ASSOCIATIONS IN GENERAL PRACTICE*

LE ROY H. SLOAN, M. D.
CHICAGO

The purpose of this paper is to point out the close relationship between both functional and organic neurology and everyday disease as seen by the average busy practitioner whether he be in the large or small community. Most of us have been wont to thrust aside the study of nervous disease as too difficult or too abstruse. We have grown up on the idea that nothing can be done for nervous patients, so why worry about them. We have nurtured the misconception of the futility of treatment for these individuals and in so doing have made possible all sorts of fads, each with a measure of truth, most with nothing more and all outside the fold of medical practice. Yet we are daily coming in contact with conditions which are pure nervous manifestations. We are either passing them up or submerging their management to that of a minor physical complaint. With the scuttling of mild forms of insanity, obvious psychasthenia, and visible functional change into the gutter of neurasthenia, the management of these diseases and many more becomes almost impossible. It is only recently that there has been included in the history of a patient more than a cursory inquiry into his emotional life, his psychic sphere, his growth picture, his repressions, his desires, etc. This was left to the *Freudians* or non-medical psychoanalysts and was forbidden ground. An experience in a community of 45,000 a year or more ago impressed me with the strategic position which the family physician and general practitioner occupies in relation to these functional upsets. While a fairly large number of such states may be dependent upon previously undiscovered sex repressions, it is my belief that the *vast majority*, especially in the smaller community, is not founded in such remote dissatisfaction. More by far are dependent upon such factors as the fatigue incident to the care of four or five children of close ages or the worry

*Read before Illinois State Medical Meeting, Section on Medicine, May 20, 1930.

of a husband out of work for weeks, of wondering where the next meal is coming from or the clothes for another child, or the monotony of family duties without occasional diversion, or a loveless though not sexless marriage, or the inability to pour out a host of pent-up troubles for the lack of a sympathetic ear, or a feeling of inferiority and inadequacy built up by the general situation of the family for years, which inadequacy is cured not by medicine perhaps but by moving to another community. It seems obvious that the recognition of these functional states and their origin, and the common sense management of them by the family physician offers more than any other method against the development of lop-sided fadism. From just such factors as these spring many aches and pains, abdominal discomfort, headaches and the like. Inquiry along such lines by the family doctor may clear up a host of seemingly organic trouble.

Now, while we can but touch upon functional conditions, what about organic nervous disease and ordinary practice? What diseases met in daily practice have a neurologic association sufficiently close to warrant consideration. Let us mention but a *few*. Influenza is a common disease, never regarded as neurologic, and yet at times it bears so close a clinical relationship to encephalitis that it can scarcely be distinguished. We recognize the difference when the patient who has had "influenza" comes back with "nervous shakes," i. e., Parkinsonism, tremors of the face, or arm, or leg, or paralysis of an eye muscle or a depression state, or an out-and-out schizophrenia, or when a child after this supposed influenza goes off at a tangent so foreign to his previous makeup as to at times warrant the term insane. And so this "common cold" is strung up with any or all of the above and is becoming more and more a neurological condition. We rarely think of vaccination in the light of neurology, but recently the all too frequent myelitis and encephalitis due to or associated with vaccination, has caused renewed attention to the possibility of this unfortunate complication. Now what other diseases have such associations and what are their major manifestations? The number is legion. Diphtheria with its paralysis of the palate, and weakness of the legs, lead poisoning with the drop wrist, rheumatism with chorea of minor or major intent, Jamaica ginger and

peripheral neuritis, alcohol and the same peripheral neuritis. Cardiospasm, pylorospasm, colitis, belching, gas on the stomach, constipation and vague pain all are so frequently knit to a purely nervous state as at times to suggest that the origin of these is in the nervous system entirely. Osteomyelitis, a surgical disease, followed by brain abscess; chronic bronchiectasis, a lung disease, followed by abscess of the brain; extraction of the teeth, a dental procedure, followed by abscess of the brain, diffuse meningitis and septicemia. And yet we rarely conceive of them as having any neurologic angle. One of the commonest diseases which may begin in a *strictly* neurologic way is pernicious anemia with tingling and numbness of the hands and feet, and a peculiar feeling limited to the so-called stocking and glove areas. This disease may *paralyze* before its true character is obvious unless we are looking out for it. Diabetes may show up as a typical neuritis and may closely simulate the picture of either arthritis or tabes.

Let us turn to vascular disease for a bit. We are all acquainted with venous thrombosis following typhoid, chronic infection, etc. We are accustomed to the abrupt rise in the fever, the septic character, the increase in the white count. We recognize the increased gravity of the situation as depending upon the nature of the infection. What similar picture do we see in the brain? Well, after a carbuncle, a series of boils or a chronic sinus infection, we may just as well get a venous thrombosis in the brain. It follows as in general venous thrombosis after a latent period of from 3 to 10 days. So that when a patient who has had some chronic infection begins to have cerebral symptoms, develops a paralysis of an eye muscle, mixes his words, perhaps shows a local paralysis of a limb, we visualize just such a picture as we would after typhoid except that we bear in mind its location in the brain and the ease with which spread to the pial meninges may occur. What of arterial disease? In general practice we see it of gravest import in the heart. We recognize the picture of coronary thrombosis or angina pectoris. We see the patient fall dead as if shot, or we see him incapacitated, slowly recovering, then relapsing again. What counterpart have we in the brain? Hemorrhage is probably the closest but remember that a patient who topples over dead all in

an instant does not die of a cerebral lesion; he dies of heart disease. Brain conditions may be matters of minutes, though usually of hours or days or months, but never of a second or two. Now if our patient has a valvular heart disease especially with a very marked irregularity and he suddenly becomes aphasic and then hemiplegic he has had an embolus, not a hemorrhage. He probably will not die. He will live. The smaller and farther his embolus goes, the faster he will get well. But if our patient wakes up in the morning paralyzed, he has had a thrombosis and one must look for arterio-sclerosis, diabetes, syphilis or hypotension. He won't die in an hour. He will live to get about, perhaps to mumble all the rest of his life, perhaps to have a gradually progressing hemiplegia, perhaps to clear up almost entirely. And so, you see in this picture one not far from thrombosis elsewhere in the body. As a summary we may say this. Vascular disease comes suddenly, most sudden in the heart, less so in the brain, much less rapidly elsewhere. A sudden lesion totally incapacitating the patient usually means heart or brain. Associated with aphasia or paralysis with nausea and vomiting, it is brain. With sudden death it is heart.

Another vascular insult which is daily taking on more significance is spontaneous subarachnoid hemorrhage. A young girl or boy previously well gets a severe brutal headache, vomits, sits or falls down, develops a stiff neck and stiff back with a positive Kernig. This boy has probably had a hemorrhage which is spreading over the brain down the spinal canal. Lumbar puncture clears up the diagnosis and relieves the patient. To be sure, further examination is needed to rule out the presence of a vascular tumor but for first purposes the diagnosis of a spontaneous hemorrhage is sufficient. Repeated puncture may be necessary. The older the patient the more apt are we to find him afflicted with recurrent and variable vascular disturbances in the brain. Drainage of a bladder blocked by a large prostate by the surgeon, careful use of cardiac regulators by the internist, attention to the concomitant diabetes, reduction in weight, may clear up the whole picture. And so we see how frequently every day disease presents its neurological phase.

When we turn to the field of pain we may examine one or two types which have a very defi-

nite neurological association. First: Pain in the face. This may mean an infected tooth, simple neuralgia, a sinus infection, etc., but pain in one branch of the fifth nerve spreading to another branch at times, touched off at one particular spot above all others, is almost always trigeminal neuralgia and will require treatment as such. Second: Pain in the back. When this persists, runs down the legs which before long show weakness and changes in sensation, there is compression of the spinal cord. In the absence of tuberculosis it is so often due to metastasis from a breast tumor or prostatic carcinoma as to make imperative the x-raying of the spine and pelvis in every patient with persistent back pain. As a matter of fact, breast tumors and similar small carcinomata by metastasis produce so much back pain, leg pain, sciatica, neuritis, etc., as to present a major problem to be ruled out first rather than last. In contrast to this picture an entirely painless weakness of both legs with a little more spasticity than normal, with a Babinski and with little change in sensation makes us think at once of that steadily increasing disease, multiple sclerosis. If we find a nystagmus and absent abdominal reflexes we can be pretty certain. Ruling out this affection we may be dealing with spastic syphilitic paraplegia revealed by spinal puncture or pernicious anemia with its sore tongue and achylia gastrica or subacute combined degeneration.

A word or two on brain tumor will suffice. Headache may mean tumor or not. When associated with nausea and vomiting it is very probably tumor. When headache, nausea and vomiting are combined with a change in personality with alteration of habit, with loss of memory, with facial paralysis, or with epileptiform convulsions, we are most surely dealing with a tumor. Localization of these tumors is becoming daily more certain. Surgical treatment is curing a larger number each year and the accomplishments of such treatment running hand in hand with the skill and knowledge by the operator of neurology and neuropathology as well as of surgery. Excluding the acute traumatic brain we make bold to declare that surgery is best left to those with special training. On the other hand, this same headache seen for fifteen years, unassociated with further findings such as

choked disc or paralysis, means nothing of the sort. It is probably severe migraine.

Now a neurological discussion of course will include our intimate friend syphilis. These facts stand out in the mind of anyone seeing the syphilitic patients years after the initial lesion. First—many soft chancres are syphilitic—even a mucous erosion or mucous slit may be syphilitic. Dark field examination should be more commonly used. One or even six shots of salvarsan will not cure primary syphilis and the patient should be followed up or at least told to follow up his treatment for a matter of years not months. The Argyll-Robertson pupil still means syphilis until proven not to mean it and that is rarely. For the general practitioner this pupil and a change in knee jerks and ankle jerks with a history of some sort of a lesion still stands as of utmost importance in recognition of late syphilis. On the other hand a patient with a negative blood Wassermann and a negative spinal fluid Wassermann with a normal cell and gold curve from a dependable laboratory should not be subjected to antiluetic treatment without careful consideration of many other lesions which may produce his present picture. Mercury and iodides still remain of major importance in the treatment of later syphilis, just as salvarsan holds its place in primary and secondary lues and tryparsamide in pure nervous syphilis. Malaria and typhoid injections should be reserved for hospital use and by those acquainted with the manifest symptoms of nervous syphilis. Salvarsan has no place in the treatment of any kind of syphilis when the patient has syphilitic heart disease except in exceedingly small doses and after other medication. Syphilis may simulate any known disease from scarlet fever to intestinal obstruction. In the absence of laboratory findings a history with general adenopathy and changes in the pupils and reflexes remains of greatest help in the running down of a disease as prevalent amongst the rich as the poor, the strong and the weak, now as ever before.

DISCUSSION

Dr. Emil Z. Levitin, Peoria: I enjoyed Dr. LeRoy Sloan's paper. I consider that he has covered the ground from a neurological viewpoint in a definite and complete manner. I simply desire to mention during my allotted time a few points concerning certain psychi-

atric syndromes present during definite periods in an individual's life.

My impression is that the members of this specialty have been convinced by suggestion in years gone by, the average practitioner, that he knows nothing about mental and nervous diseases, until the practitioner has fallen for that and turns the case over to the specialist without trying to treat it. He should, as a matter of fact, be very careful before turning a case over to a specialist. There are three periods of life which should interest the practitioner very much. One is the period of childhood, so thoroughly gone into at the conference in Washington this month. The practitioner comes in contact with the infant, with the pre-school child and with the adolescent, and he should be the one to recognize the changes in family environment and attempt to correct the child's behavior situation. Then the next phase of life, the menopause; the average practitioner has observed men—I say men knowingly—and women for a number of years in his routine practice, and he should notice the beginning of the signs of decay which come into the minds of individuals at that time. He should know that this is due to lack of something in the endocrine glands, and he should know how to treat these patients and not be so willing to transfer them to the neuro-psychiatrist. The third period is senility. We must learn that there are mental states that exist temporarily during the senile period, of an exhaustive nature, and the practitioner should recognize that certain changes in demeanor and behavior do not mean a senile psychosis, but frequently a temporarily exhaustive psychosis, which under proper care will improve and the individual resume his place in the community with complete recovery.

Dr. George W. Hall, Chicago: I have listened to the last two papers of the afternoon with a great deal of interest. Their contents convince me more and more that to be a specialist is sometimes a dangerous thing. Regarding Dr. Clendenen, I wish to state that while I know he is a very successful internist I am inclined to believe that Fate has spoiled a splendid neurologist and psychiatrist, and it may not be too late for him to switch to that specialty yet.

In emphasizing some of the points brought out in these papers I would also like to stress the statement that the absence of clinical signs should not always lead one to the diagnosis of a neurosis. There are many symptoms of a neurosis in individuals who have underlying latent organic disturbances. When one is dealing with a simple neurosis, however, it usually means that that individual has many conflicts in his or her life and that he is unable to adapt himself to his surroundings and environment properly. Consequently he establishes a state of mind which is not in accordance with his normal self. It is true, as Dr. Clendenen stated, that a good history will bring out in a very satisfactory manner the underlying facts which are the bases of neurosis.

As a rule the neurotic patient is very anxious to go over his complaints with you whereas if one has an

organic basis, which on the surface seemingly is functional in character, it is not so easily brought to the surface, whereas the neurotic individual will unravel his story in a very satisfactory manner without your having to quiz him closely. Fears or phobias are the basis of so many of the so-called functional disturbances, and it too often happens that the individual suffers from conflicts because of headache or backache or general weakness, whereas the main factor is the fear which possesses him, and not infrequently the fear is that he or she (the patient) may become insane. Dr. Sloan emphasizes one of the statements mentioned in his paper, and that is that some patients may not show the evidences of organic disease early in their history of complaints. Especially may that be true in young individuals who have been the subject of sleeping sickness and who have made an apparent recovery finally to develop a true Parkinsonism. The point I am endeavoring to bring out is that we as physicians cannot consider the patient's mind and body as separate entities. They are both in the same compartment and when one is mentally sick he is also physically sick and vice versa. In my opinion we physicians fail to improve the patient's condition because of the fact that we do not take his state of mind sufficiently into consideration at the time of examination. For instance, we may examine a patient who has a presystolic murmur but the heart is normal in size and none of the objective signs showing any particular danger from that standpoint, and yet if we tell the patient he has a mitral murmur we are very likely to make a prolonged invalid out of him. So many of us are afraid to take the responsibility to minimize our findings because we have the fear that if we don't tell the patient everything concerning his heart's action some other physician will and that we will be blamed for overlooking it. But after one has practiced medicine a number of years I think his judgment will suggest to him the advisability of not telling the patient too much especially if that patient is a highly neurotic individual. My belief is that we send a great many patients to the Science healer simply because we do not understand that patient's mental attitude sufficiently well.

THE CLINICAL AND ROENTGENOLOGIC VALUE OF THE LATERAL CHEST

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The lateral chest as an aid to diagnosis is not used as much as it should be because it is difficult to obtain uniformly satisfactory results. It is possible to develop uniform technic, both as regards position and exposure. The exposure that I use is 118 P. K. V.—50 M. A. $\frac{1}{2}$ sec.—

*Read before Section on Radiology, Illinois State Medical Meeting, Joliet, May 21, 1930.

at 7 feet, for the average adult of 150 pounds. The position of the patient is a very important factor and is hard to describe. The patient stands with the affected side toward the plate, crossing the arms in front of him and grasping them just above the elbows places them on the flexed head and neck. He then holds tight to his head and raises his arms and head simultaneously until his body is in a vertical position. This position places the shoulders and scapula posterior. As deep a breath as possible is necessary to lessen the exposure. It is very important that the tube be placed seven feet or more from the plate, since the aorta, for instance, is about five inches from the film. The abscesses or foreign bodies located closer are filmed actual size. The percentage of distortion at a tube distance of 7 feet and object distance of 5 inches is 6.3. At 10 feet it is 4.3. This increase of three feet requires so much more exposure that I feel that it is not necessary, since the distortion of 2% is hardly recognized on the film. If the object is only one inch from the film, then at a tube distance of 7 feet there is 1.2% distortion.

A study of the distortion in roentgenograms is well written by Andrews and Warren¹ (1929), who describe their method and tabulate the percentages with varying object to film and target to film distances.

In the diagnosis of aneurysm I believe that the lateral view of the chest is of great importance. However, the left oblique technic recently described by O'Kane, Andrew and Warren² (1930) is of great value. In fact, in some cases, I prefer it to the lateral since there is a great variation in the position and direction of the large vessels. Nichols³ (1927). The oblique view shows more of the descending aorta and right heart. The lateral view certainly has its place in the diagnosis of aortitis of the descending aorta.

For the large aneurysms it is not necessary to take either the oblique or lateral views since the upper half of the chest is obscured and no definite shadows can be determined. Its only value in these cases is to demonstrate erosion of the bodies of the vertebrae. In the early cases of aortitis, the aorta is not only dilated but bends sharply upon itself at the transverse portion.

In the arteriosclerotic aorta all three portions form a large horseshoe, the size of the loop de-

pending on the tortuosity of the aorta. The lumen of the aorta is not changed. In a few cases I have failed to show any widening of the aorta except in the lateral chest, which finding has conformed to the clinical findings. The small sacular aneurysms are filmed in the position best seen by the fluoroscope. They may be entirely obscured or appear as a consolidation in the ordinary lateral or oblique views.

The heart presents an ovoid configuration with the long axis extending from above and downward and forward in the normal case. In the mitral lesion the oval configuration assumes a more globular shape as a result of the enlargement of the left side of the heart. In aortic regurgitation the posterior curve becomes more prominent. Brown & Weiss⁴ (1927).

In the differential diagnosis of pericarditis with effusion and acute dilatation of the heart it is of great value. In pericarditis with effusion the retrocardiac space is obliterated while in acute dilatation of the heart it remains clear.

The lateral chest plays an important part in localization of foreign bodies and lung pathology. The fluoroscopic examination is first necessary to locate the site of pathology so that the affected side can be placed next to the film. The stereoscopic views of the chest are of no value to the surgeon when operating or to the internist on the ward since only a few of these men have had enough experience with the stereoscope for it to be of any value to them.

Obscure pathology in the base of either lung field is best studied in the lateral view. Consolidations of the lower lobe of the lung may show a smooth upper border, much like the diaphragm. Lesions behind the heart are practically always missed in the ordinary postero-anterior chest films. A few cases may have consolidation in the anterior or posterior costophrenic sinus and show no pathology in the postero-anterior chest film. Early collections of pleural fluid are always found in the posterior-phrenic sinus since it is the most dependent.

Foreign bodies, either in the lung tissue or the larger bronchi, can be definitely localized and their position in the bronchi determined.

The enlarged thymus should always be studied in the lateral position for displacement and compression of the trachea as well as all mediastinal

tumors. In fact, cases of this type are not complete without the lateral view.

The lateral chest film is of value in many of the ordinary chest conditions, yet few roentgenologists resort to it because of the difficulty in securing uniform satisfactory results.

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DISCUSSION

Dr. P. R. Casellas, Chicago: Mr. Chairman and Gentlemen: I think the subject of lateral radiography of the chest is a very timely one, and I, personally, am very grateful to Dr. Warfield for having presented this paper.

For the past seven years I have been interested in the subject of lateral radiography, especially in children, and during that time I have collected forty-some cases of little patients giving symptoms of thymic enlargement, in which tumefaction of the mediastinal glands was demonstrated by means of lateral radiography where the usual procedure of the x-ray of the thymus had failed to give any light as to the pathological process causing the symptomatology.

That brings to mind the words of Dr. Gerber as to the advisability of giving this patient x-ray therapy, because in my experience every one of these cases has yielded to x-ray radiation. I again refer to Dr. Gilbert's paper to emphasize how pleasing it is to see the roentgenologists going back to small dosage in the treatment of thymus in children.

Of course, lateral radiography of the chest will never substitute a fluoroscopic examination. I believe that a chest examination is not complete unless a very careful fluoroscopic examination is made, as we may gain information by the fluoroscope that cannot be reproduced on a film. Also, I do not think a chest examination of the child is complete unless a lateral view is taken.

Dr. O. W. Britt, Waterloo, Iowa: There is one condition that I wish Dr. Warfield had gone into a little more in detail and that is in regard to Lipiodol injections of the bronchial tree. The greatest number of bronchiectases that we found at Iowa City were located in the medial and posterior segments of the lower lobe.

One can imagine the difficulty of seeing the shadow in the posterior-anterior view if the film is the least bit light as the heart covers this area completely, whereas if you take the lateral projections these things come out

very clearly. Our surgeons were very grateful in many instances to have the lateral projections.

The stereoscopic views are of no value to the surgeon after he gets into the operating room, however, our surgeons at the University Hospital at Iowa City usually studied these cases thoroughly before going to the operating room by using the stereoscopic views and I am sure they received great benefit from the stereoscopic examination in the lateral projection.

Dr. C. H. Warfield, Chicago (closing): I have nothing to say except that I think that any work done on bronchiectasis with lipiodol is incomplete unless a lateral view of the chest is taken. The lateral chest should be a routine procedure in every case.

RULES FOR INDUSTRIAL SURGEONS

The following set of rules has been tentatively drawn up by the Industrial Relations Committee and the Ethics Committee of the Wayne County (Detroit) Medical Society. They are presented to the members for criticism and suggestions:

The Industrial Relations Committee in establishing the following code realizes the futility of outlining in detail any definite set of rules to govern Industrial Surgeons.

All we can hope to do is to draw up a general working agreement, which will provide a better understanding between physicians having common interests in carrying on industrial work.

We contend that the Industrial Surgeons of Detroit are represented by men of the highest professional and ethical standing and we desire that this relationship be preserved and maintained.

We deplore the fact that misunderstandings at times occur. We also object to such a friendly relationship being jeopardized by insurance companies who cause doctors to "bid" for industrial work and "pit" one physician against his neighbor.

We suggest that the following rules be subscribed to by all physicians doing Industrial Surgery in Wayne County:

1. An Industrial Surgeon should consider his relations with the factory which he serves in the same manner as a physician called to attend a family in general practice.
2. He should in no way solicit business from or advertise himself to any industrial plant unless he positively knows that the plant in question is not being cared for by any other surgeon.
3. He should refuse appointment as surgeon by any industrial concern or insurance company concerned in the transaction until he is sure that the factory has no regular surgeon, that the surgeon has resigned, or has been officially discharged.
4. If necessary, he shall acquaint himself of the actual facts of the case by first calling upon the surgeon himself for a statement before entering into any negotiations whatever to take over new work.
5. He shall refuse to go in attendance to any fac-

tory which is regularly under the supervision of another doctor, except in emergency.

6. He shall under no conditions discuss rates or fees to any factory or insurance company, either in person or by letter, if this factory is being regularly cared for by another doctor.

7. Any infringement of these rules shall be construed as an unfriendly act and shall be referred to the Ethics Committee of the Wayne County Medical Society for decision.

8. The Industrial Surgeon should in every way possible raise the standing of this branch of the profession by—

(a) Personally supervising as much as possible the care of patients at office and factory.

(b) Preserving a sufficiently high standard of fees paid by insurance companies to insure skillful and painstaking service.

(c) Fostering a relationship of mutual respect and trust, not only between the Industrial Surgeon and his employers, but an ethical relationship with other industrial surgeons.

THREE IOWA SOCIETIES TACKLE HEALTH CENTER PROBLEM

There is a growing sentiment among Iowa physicians that public and charitable health activities need more professional attention and direction. This feeling is shared by most lay health and social workers.

This proposal is based upon two fundamentally sound principles: First, that a safe and constructive lay health program can be defined and mapped out only with the sympathetic counsel and the direction of the medical profession as such. Second, that the success in practically every one of the lay health activities is based upon free services rendered by physicians; and that they therefore should determine the conditions under which such services are to be given, rather than to have them determined by the non-professional recipients of this free medical service.

Within the past sixty days three of the largest county medical societies have taken definite forward steps along these lines. The Scott County Medical Society in connection with a county contract for care of indigent sick has also made definite contractual provisions for operating the Davenport dispensary-clinic. This method and how the society is paid for its work is outlined elsewhere in this issue.

Woodbury and Polk counties are likewise coordinating health and charitable activities under proper leadership. In Sioux City a program similar to the one in Davenport has been undertaken, while in Polk County the movement consisted of the passing of the following resolution:

"That no member of the Polk County Medical Society shall contribute free professional services to any hospital, health center, clinic, or other health or welfare project, unless both the institution and its activities have been approved by the society."

The Woodbury County Medical Society seems to have found a solution of the clinic-dispensary problem

which has been an issue there during the past few months, through the adoption of a resolution which sets up an entirely new organization. It is to be a joint undertaking, but with the county medical society in its proper and rightful place, as is clearly indicated in the resolution adopted at a recent meeting of the society as follows:

"The Woodbury County Medical Society being assembled in regular session to consider means whereby we may aid in providing for the needs of our city and county in the matter of taking care of its indigent sick and injured as well as those of other towns, cities, states and countries who may temporarily be within our city and county, with the efficiency and justice to all concerned, do hereby resolve that we will gladly cooperate with any Civic Organization that now exists or may hereafter be organized, which shall have for its object, and sole object, that of aiding and furthering the aforementioned activities also with the City Board of Health and County Board of Supervisors in carrying out these objects in the amalgamation of the foregoing bodies interested in contemplated charitable activities, it is understood and agreed that the same shall occur through a Board of Control, consisting of three (3) members selected by the Civic Organization, three (3) by the Woodbury County Medical Society, one (1) by the Board of Supervisors, one (1) by the Board of Health, and one (1) by the Board of Education of Sioux City, Iowa.

Said Board of Control shall have the management of said contemplated activities of said health center, with this restriction, however, that there shall be two (2) committees appointed. The first one as the committee on indigency and the second as that as health center management, which committee shall be composed as follows, and have the following powers. Furthermore, that we as a society will annually establish a fee for the various types of work rendered by the profession to said health center, which shall be defrayed out of the funds collected from the Civic Organization or money received from the Board of Supervisors for cases properly falling within its jurisdiction and obligation.

"Furthermore, that all members of the Woodbury County Medical Society shall be entitled to have services in said health center prorogated as to time and occurring according to their election, but all shall receive the same compensation based upon 60 per cent of usual fee charged for like services in private practice. Furthermore, none shall be recommended to service unless the same is agreeable to them."

—Journal Iowa State Medical Society.

A WONDERFUL FAMILY

Having been told that it was electricity that made his mother's hair snap when she combed it, Johnny bragged to a visitor:

"We're a wonderful family, mother has electricity on her hair and grandma has gas on her stomach."

Society Proceedings

ADAMS COUNTY

The Annual All-Day Fall Clinical Conference of the Adams County Medical Society, held November 17, was preceded by a breakfast in honor of our distinguished guests, Doctors George W. Crile, Russell L. Haden and William V. Mullin, all of Cleveland. The breakfast was held at Hotel Quincy with twenty-one in attendance.

The scientific meeting was called to order at the Elk's Club about 9:15 A. M., by Dr. J. F. Ross, the president of the society. The following program was held during the morning:

The Salivary Glands—William V. Mullin, M. D., F. A. C. S.

Differentiation and Treatment of the Anemias—Russell L. Haden, M. A., M. D.

Clinical Analysis of 21,135 Operations on the Thyroid Gland with Special Relation to the End Results—George W. Crile, M. A., M. D., F. A. C. S.

There was recess from 12:00 until 2:00 P. M., and in the afternoon the following program was given:

Bronchial Asthma—William V. Mullin, M. D., F. A. C. S.

Types and Treatment of Rheumatism—Russell L. Haden, M. A., M. D.

The Nature and Treatment of Peptic Ulcer—George W. Crile, M. A., M. D., F. A. C. S.

The meeting adjourned to the Quincy Country Club for the evening session where a banquet was served to one hundred forty physicians and their wives. Following the banquet we were entertained by the Quincy High School orchestra of sixty-five pieces, under the direction of Mr. Paul E. Morrison. The evening scientific program was then given:

The Management of Chronic Diseases of the Nasal Sinuses in Relation to Their Effects Upon Systemic Disease—William V. Mullin, M. D., F. A. C. S.

Dental Infection and Systemic Disease—Russell L. Haden, M. A., M. D.

The Management of Patients Seriously Sick—George W. Criles, M. A., M. D., F. A. C. S.

The meeting adjourned about 10:00 P. M.

HAROLD SWANBERG, Secretary.

ALEXANDER COUNTY

The Alexander County Medical Society held its regular monthly meeting in the Halliday Hotel, Cairo, the evening of November 21 with twelve of the eighteen members present. Clinical cases for discussion were presented as follows:

Dr. J. S. Johnson, Cairo: "Massive Hypertrophy of Tonsils Associated with Pseudoleukemia."

Dr. R. E. Barrows, Cairo: "Gastric Carcinoma in a Boy of Twenty-two."

Dr. O. T. Hudson, Mounds, Ill.: "Appendiceal Abscess in a Child of Two Years."

Dr. Flint Bondurant, Cairo: "Malignant Tumor of Sigmoid Flexure."

The paper of the evening was presented by Dr. Jas. S. Johnson, of Cairo, on the subject, "Toxic Eye Diseases," the discussion on which was opened by Dr. C. L. Weber, also of Cairo. The paper was further discussed by Drs. H. A. Davis and J. W. Dunn, Cairo. Both the paper and discussion were pointed and profitable.

It was decided by the society that the annual meeting for the election of officers for 1931 be held evening of December 16. This will be followed by a banquet. To both of these the secretary was instructed to invite, through Dr. J. S. Templeton, of Pinckneyville, Ill., councilor for this, the Tenth district, the committee appointed by the Council at its meeting in Chicago, September 3. After consideration of some minor local matters pertaining to the welfare of the society the meeting then adjourned.

JAS. W. DUNN, Secretary.

COOK COUNTY

CHICAGO SOCIETY OF INDUSTRIAL MEDICINE AND SURGERY

Meeting, November 5

Presentation of Interesting and Unusual Traumatic Cases.

Chest Injury and Lung Disease. James A. Britton.
Discussion opened by Jerome R. Head.

CHICAGO ROENTGEN SOCIETY

Meeting, November 12

Bone Tumors. Henry Myerding, Rochester, Minn.

Fibro-Cystic Disease. Adolph Hartung.

Lesions of the Isthmus of the Lower Lumbar Vertebrae. F. A. Chandler.

Roentgen Changes in the Head of the Femur in Intracapsular Fractures. D. B. Femister.

CHICAGO MEDICAL SOCIETY

Meeting, November 19

Bleeding Peptic Ulcer. John B. Deaver, Philadelphia.

Marriages

FRED O. E. EGGERT, Chicago, to Miss Helen Jane Duncan of Appleton, Wis., September 10.

LUCIUS LESTER HUTCHENS to Miss Nedra Johnson, both of Flora, Ill., October 17.

Personals

Dr. Hugh A. McGuigan, Chicago, addressed the Will-Grundy County Medical Society, November 12, on "Digitalis Therapy."

Dr. Harry J. Corper, Denver, addressed the Chicago Tuberculosis Society, November 13, on "The Tubercle Bacillus—Experimental Studies."

The Rock Island County Medical Society was addressed, November 11, by Dr. George de Tarnowsky, Chicago, on "Surgical Management of Carcinoma of the Colon."

Dr. Stanley S. Burns, St. Louis, addressed the Williamson County Medical Society at Marion, November 18, on "Diagnosis and the Importance of Focal Infection in the Nose and Throat."

Dr. Abraham Myerson, Boston, addressed the Illinois Society for Mental Hygiene, November 25, on "Inheritance and Environment: Their Effect on Personality."

Among others, Dr. Arthur Weil addressed the Chicago Pathological Society, November 10, on "Silver Impregnation of Gliomas with Davenport's Method."

Dr. Aldred Scott Warthin, Ann Arbor, Mich., delivered the eleventh annual Pastuer lecture before the Institute of Medicine of Chicago, November 21, on "Problems in Latent Syphilis."

"Syphilis of the Nervous System" was the subject of Dr. H. Douglas Singer, Chicago, November 19, before the Will-Grundy County Medical Society.

Dr. Herman L. Kretschmer delivered the Mayo Foundation lecture on neurology at Rochester, Minn., November 3, on "Diseases of the Urinary Tract in Infancy and Childhood."

Dr. Charles Spencer Williamson, Chicago, discussed "Research Work Along the Lines of Anemia, Especially Nutritional Anemias and Pericarditis" before the Will-Grundy County Medical Society, Joliet, November 5.

The fifteenth annual meeting of the Institute of Medicine of Chicago will be addressed, December 2, by Dr. George E. Shambaugh on "The Problem of Deafness," and Dr. George Burgess Magrath, Boston, "Some Personal Experiences as a Medical Examiner."

The Quincy Physicians' Club was addressed, November 3, by Dr. Melinda C. K. Germann on "The Progress of Pediatrics"; November 17, by Dr. Clarence A. Wells on "Progress of Anesthesia."

Madame N. Dobrovolskaya-Zavadskaya of the Curie Institute, Paris, France, lectured at Northwestern University Medical School, November 24-25, on "Some Important Notions from Radiology" and "About the Heredity of Cancer."

The Chicago Roentgen Society was addressed, November 12, by Drs. Henry W. Myerding, Rochester, Minn., on "Bone Tumors"; Adolph Hartung, "Fibrocytic Disease"; Fremont T. A. Chandler, "Lesions of the Isthmus of the Lower

Lumbar Vertebra," and Dallas B. Phemister, "Roentgen Changes in the Head of the Femur in Intracapsular Fractures."

Dr. R. W. Dunham has purchased the Illinois Valley Hospital and Ottawa Tuberculosis Sanatorium, Ottawa, Illinois.

Dr. Max Thorek presented a paper on "Possibilities of Reconstruction of the Human Form" before the Academy of Medicine, Milwaukee, November 11.

News Notes

—The annual study class of the Chicago Heart Association held its first meeting, November 10; it will continue each succeeding Monday, including December 8; the subjects will include "The Child Heart," "The Heart Beyond the Midpoint of Life" and "Care and Treatment of Cardiacs."

—A joint meeting of the Chicago Council of Medical Women and the Chicago Medical Society was addressed, October 29, by Dr. Mabel E. Gardner, Cincinnati, on "Multiple Small Peritoneal Cysts of the Fallopian Tubes," illustrated, and Susan R. Offutt, Rochester, Minn., "Chronic Cervicitis (Office Treatment)."

—The state department of public welfare and the College of Medicine of the University of Illinois dedicated four buildings, October 29. These buildings, the State Orthopedic Institute, the Institute for Juvenile Research, the Nurses' Home and the Research and Educational Hospital Service Building, are units of the Research and Educational Hospital operated by the University of Illinois. Addresses were given by Governor Emmerson, Harry Woodburn Chase, LL.D., president of the University of Illinois, and Rodney H. Brandon, director of the department of public welfare. After the dedication of these buildings, officials of the University of Illinois laid the cornerstone of their new \$1,500,000 Medical and Dental Laboratory Building, at Polk and Lincoln streets. These laboratories are designed to accommodate 200 students in a class. The Research and Educational Hospital has a capacity of 450 beds.

—Dr. Andy Hall, state health director, has announced that five state-wide medical and health organizations have formed an agreement to carry out a vigorous anticancer campaign over

the state. The cooperating organizations are the Illinois Department of Public Health, the educational committee of the Illinois State Medical Society, the Educational Association on Cancer, the Illinois branch of the American Society for the Control of Cancer, and the University of Illinois College of Medicine. Special emphasis will be made in an educational drive to halt the increase of cancer on visible parts of the body. The program will include the publication of an illustrated booklet for free distribution throughout the state and for the building of a mobile exhibit made up of wax models, actual specimens, pictures and charts which show cancer of accessible parts of the body, in all of its recognized stages and forms, and a cancer week program.

—The Southern Illinois Medical Association held its fifty-sixth annual meeting in Mascoutah, November 6-7. The program included papers by Drs. John Niess, Jr., Carmi, on "Effects of Tonsillectomy on the General Health"; Quitman U. Newell, St. Louis, "Remarks on Treatment of Sterility in the Female"; Clyde E. Purcell, Paducah, Ky., "Foreign Bodies in the Respiratory and Food Passages"; William D. Chapman, Silvis, "Medical Organization and Practice"; William H. Evans, Murphysboro, "The Family Physician and the Ex-Service Man." The Canti and Lewis cancer films and Dr. DeLee's three reel film on "The Toxemias of Pregnancy" were shown. Officers elected were president, Dr. Charles W. Hall, Mount Vernon; vice president, John E. Reed, Benton, and Charles S. Skaggs, East St. Louis, and secretary, William J. Benner, Anna. The next annual meeting will be held in Olney.

—The department of medicine of the University of Chicago, in the pursuance of studies of pneumonia, has set aside beds in the Albert Merritt Billings Hospital for the admission, free of charge, of patients whose financial circumstances warrant such consideration. The Lasker Foundation and the department of medicine of the university, which has undertaken a long term of clinical study of hypertension, have arranged for the admittance, free of charge, of cases to the Max Epstein Clinic. The type of patients desired are those less than 40 years of age with high blood pressure and without other symptoms, and patients less than 40 years of age with high blood pressure and other indications of

chronic Bright's disease. Such patients will be admitted as ambulatory and will be hospitalized only if necessary. Patients with a fair prospect of being available over a period of years will be given preference.

—Dr. A. S. Burdick, who has been, officially, Editor-in-Chief of *Clinical Medicine and Surgery* for a long time, has given up that title, and the Managing Editor, Dr. George B. Lake, who has conducted that journal for the past six years, becomes, officially, its Editor. Dr. Burdick retaining the leading position on its general editorial staff.

—Each Tuesday at 2:35 P. M. the University of Illinois College of Medicine broadcasts talks on medical subjects over Station WLS, the Prairie Farmer Station, in Chicago. Following is the program:

September 30—Medical Outlook for 1930, Dean Davis J. Davis.

October 7—The Research and Educational Hospital, Major M. H. Worthington.

October 14—The Care of the Eyes, Dr. Hal-lard Beard.

October 21—Tularaemia, Dr. Lloyd Arnold.

October 28—Silicosis or Dusty Lungs, Dr. S. C. Beach.

November 4—The Disinfecting Power of the Skin, Dr. Lloyd Arnold.

November 11—Lead Poisoning, Dr. S. C. Beach.

November 18—Undulant Fever, Dr. Lloyd Arnold.

November 25—Chrome Plating or Dangerous Auto Beautification, Dr. S. C. Beach.

December 2—The Medical Library of the University of Illinois College of Medicine, Miss Metta M. Loomis.

December 9—Carbon Monoxide or Automobile Gas Poisoning, Dr. S. C. Beach.

—At the Bi-weekly meeting of the Medical History Club, University of Illinois College of Medicine, on November 5, Dr. Julius H. Hess, Professor of Pediatrics, gave his impressions of "Russia as I Saw It." Dr. Hess discussed both the economic and medical situations.

—The Staff of the Research and Educational Hospital, University of Illinois, holds a clinical conference on the first and Third Thursdays of each month at 1:00 P. M. in the Dispensary clinic room, to which the profession is invited.

At the conference on November 6, the following cases were shown and discussed:

Carcinoma of the Nose. Carcinoma of Ear and Stomach with Metastases Sarcoma, Dr. F. L. Lederer.

Three Cases of Trichinosis, Dr. C. L. Birch.

A Case of Scurvy, Dr. C. S. Williamson.

Primary Carcinoma of Liver with Thrombosis of Portal Vein, Dr. George Milles.

—At the bi-weekly meeting of the Medical Research Club of the University of Illinois College of Medicine, November 12, 1930, Dr. Gerhardt von Bonin presented a paper on "The Skulls of the Easter Islanders"; and Dr. W. C. Austin and Messrs. C. J. Smalley and M. I. Sankstone presented a paper on "Changes of l-Arabinose and d-Xylose Under the Influence of Dilute Alkali."

—The two assemblies at Peoria Central High School were addressed November 12 by Dr. Frederick Meixner, who spoke on, "Childhood Tuberculosis" as a preliminary program to the establishment of a diagnostic clinic in the Peoria Public Schools.

Other high schools were addressed by Dr. Sumner Miller and Dr. Pollock of the Municipal Tuberculosis Sanatorium.

The Chicago Medical School announces the appointment of the following:

John Ralph Ballinger, Professor of Neurology.
Warren Johnson, Professor of Surgery.

James M. Moran, Professor of Clinical Medicine.

Albert Frank Rosenblum, Professor of Anatomy.

Dorin F. Rudnick, Professor of Urology.

Charles R. Wiley, Professor of Medicine.

Frederick Max Nicholson, Associate Professor of Surgery.

Robert Dane Barnard, Associate Professor of Physiology.

Loran H. Dill, Associate Professor of Obstetrics.

Alfred H. Hallmann, Associate Professor of Medicine.

Frank J. Smejkal, Associate Professor of Medicine.

—The Central Society for Clinical Research held its third annual meeting at the Research and Educational Hospital of the College of Medicine, University of Illinois, 1817 Polk

Street, on November 21. About two hundred members attended the meeting.

The officers elected for the ensuing year are: President, Dr. Louis Leiter, and Secretary, Dr. Lawrence D. Thompson.

Deaths

ROBERT GUSTAV BOEHM, Chicago; Loyola University School of Medicine, Chicago, 1916; aged 38; was killed, October 22, when the automobile in which he was driving was struck by a street car.

LESTER CURTIS, Chicago; Northwestern University Medical School, Chicago, 1870; a former member of Cook County and Mercy Hospital staffs and president American Microscopical Society; aged 88; died, November 23, of cerebral embolism and organic heart disease.

THOMAS FRANKLIN DORNBLASER, Amboy, Ill.; Medical Department of the University of Illinois, Chicago, 1908; a Fellow, A. M. A.; veteran of the Spanish-American War; formerly member of the school board; one of the medical directors of the Amboy Public Hospital; aged 51; died, September 28, of heart disease.

RALPH PARKER DOWD, Fisher, Ill.; Medical College of Ohio, Cincinnati, 1893; a Fellow, A. M. A.; aged 64; died, September 29, of arteriosclerosis.

HORACE WILLIAM ELDER, Bloomington, Ill.; Barnes Medical College, St. Louis, 1893; aged 71; died, October 24.

EDGAR J. GEORGE, Chicago; Chicago Homeopathic Medical College, 1890; Hahnemann Medical College and Hospital, Chicago, 1905; formerly professor of ophthalmology, Hahnemann Medical College and Hospital; member of the American College of Surgeons; aged 67; on the staff of the Chicago Memorial Hospital, where he died, October 21, of coronary thrombosis.

HENRY LOGAN GILES, Chicago; University Medical College of Kansas City, Mo., 1896; aged 57; died, July 24, of arteriosclerosis.

JUNIUS CLARKSON HOAG, Chicago; Chicago Medical College, 1882; member of the Illinois State Medical Society; member of the American College of Surgeons; at one time instructor and demonstrator of obstetrics at his alma mater; past president, vice president and secretary of the Chicago Medical Society; on the staffs of St. Luke's Hospital, Mercy Hospital and the Provident Hospital; aged 72; died, October 25, of carcinoma of the ascending colon.

ALLEN MASON KING, Jacksonville, Ill.; Barnes Medical College, St. Louis, 1902; member of the Illinois State Medical Society; served during the World War; aged 54; on the staff of the Passavant Memorial Hospital, where he died, September 21, of pneumonia.

PETER J. KOERPER, Wilmette, Ill.; Rush Medical College, Chicago, 1903; Spanish-American War veteran; aged 52; died, September 14, of cirrhosis of the liver and chronic nephritis.

GUY EDWARD KROLICK, Chicago; Chicago College of Medicine and Surgery, 1913; served during the World War; aged 41; died, November 9, of heart disease.

EDWARD FRANKLIN LEONARD, Chicago; Harvey Medical College, Chicago, 1902; a Fellow, A. M. A.; College of Physicians and Surgeons, Chicago, 1903; member of the American College of Physicians; formerly assistant professor of neurology, University of Illinois College of Medicine; on the staff of the Grant Hospital; aged 58; died, October 31, of heart disease.

ERNEST LEWIS McEWEN, Chicago; Rush Medical College, Chicago, 1897; a Fellow, A. M. A.; associate clinical professor of dermatology at his alma mater; member of the American Dermatological Association; on the staffs of St. Francis Hospital, Evanston, Home for Destitute Crippled Children and the Presbyterian Hospital, Chicago; aged 63; died, October 30, of heart disease.

ELBRIDGE ALBERT MCINTYRE, Chicago; University of Illinois College of Medicine, Chicago, 1927; aged 28; was found dead, November 7, in Mendota, Ill., of a gunshot wound.

GEORGE F. MEAD, Pinckneyville, Ill.; St. Louis College of Physicians and Surgeons, 1892; member of the Illinois State Medical Society; aged 66; died, October 1, of heart disease.

ELIZA ROXANA MORSE, Chicago; Northwestern University Woman's Medical School, 1888; former Fellow, A. M. A.; aged 80; died, November 14, of myocarditis and hypertension.

CHARLES EVART PADDOCK, Chicago; Chicago Medical College, 1891; a Fellow, A. M. A.; formerly assistant professor of obstetrics, Rush Medical College, and professor of obstetrics, American Medical Missionary College; member of the American College of Surgeons; aged 71; on the staff of St. Luke's Hospital, where he died, November 1, of heart disease.

ARTHUR E. PRINCE, Springfield, Ill.; Medical Department of the University of the City of New York, 1877; a Fellow, A. M. A.; medical superintendent of the David Prince Sanitarium; aged 76; died, October 21, of pulmonary carcinoma and acute parenchymatous nephritis.

JESSE PICKRELL SIMPSON, Palmer, Ill.; Missouri Medical College, St. Louis, 1899; a Fellow, A. M. A.; served during the World War; member of the school board; aged 61; died, October 21, of carcinoma of the liver.

STEWART LUTHY SMITH, Pittsfield, Ill.; Rush Medical College, 1919; was found dead in his office, October 21, from gunshot wound said to have been accidental.

GARRETT VAN ZANDT, Chicago; Rush Medical College, Chicago, 1883; aged 73; died, October 24, of carcinoma of the lower lip and myocarditis.

JOSEPH THOMAS WOOF, Chicago; Jenner Medical College, Chicago, 1906; aged 57; died, October 24, of coronary thrombosis and arteriosclerosis.

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WINTER SALAD (Six Servings)

	Grams	Prot.	Fat	Carb.	Cal.
2 teaspoons Knox Sparkling Gelatine	4.5	4			
1/4 cup cold water					
1/2 cup hot water					
1/2 teaspoon salt					
1/2 cup vinegar					
1 1/2 cups grated cheese	150	43	54		
1/2 cup chopped stuffed olives	70	1	19	8	
1/2 cup chopped celery	60	1	2		
1/2 cup chopped green pepper	25		1		
1/2 cup cream, whipped	75	2	30	2	
Total	51	103	13	1183	
One serving	8.5	17	2	197	

Soak gelatine in cold water. Bring water and salt to boil and dissolve gelatine in it. Add vinegar and set aside to chill. When nearly set, beat until frothy, fold in cheese, olives, celery, pepper and whipped cream. Turn into molds and chill until firm. Unmold on lettuce leaf and serve.

SPINACH SALAD (Six Servings)

	Grams	Prot.	Fat	Carb.	Cal.
1 1/2 tablespoons Knox Sparkling Gelatine	10	9			
1/4 cup cold water					
1 1/4 cups boiling water					
2 tablespoons lemon juice	20			2	
1/2 teaspoon salt					
1 1/2 cups cooked spinach, chopped	300	6		7	
2 hard cooked eggs	100	13	10.5		
Total	28	10.5	9	242.5	
One serving	5	2	1.5	40	

Soak gelatine in cold water and dissolve in boiling water. Add lemon juice, salt, strain and chill. When nearly set, stir in chopped spinach, mold and chill until firm. Serve on lettuce hearts or tender chicory leaves and garnish with hard cooked egg, cut lengthwise in sixths and sprinkled with paprika. Serve with mayonnaise.

If you agree that recipes like the ones on this page will be helpful in your diabetic practice, write for our complete Diabetic Recipe Book—it contains dozens of valuable recommendations. We shall be glad to mail you as many copies as you desire. Knox Gelatine Laboratories, 461 Knox Ave., Johnstown, N. Y.

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BOOK REVIEWS

THE COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION FOR 1929, Volume XXI. Edited by Mrs. M. H. Mellish, Richard M. Hewitt, M. D., and Mildred A. Felker, B. S. Octavo volume of 1197 pages with 279 illustrations. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$13.00 net.

This is the twenty-first volume of collective papers of the Mayo Clinic. There are in this volume 471 papers available from which to make selections. Of these, ninety are reprinted in full, twenty-three are abridged, sixty-eight are abstracted, and to 290 references only are given.

SURGICAL DIAGNOSIS, VOLUME III and SEPARATE INDEX VOLUME, completing the new work by 42 American Authors. Edited by Evarts Ambrose Graham, M. D., Professor of Surgery, Washington University Medical School. Three Octavo volumes, totalling 2750 pages, containing 1250 illustrations, and Separate Index Volume. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$35.00 a set.

The contributors to volume 3 are Doctors Alfred W. Adson, Harry C. Ballou, Walter E. Dandy, Robert Elman, Evarts A. Graham, Frank Hinman, Dean Lewis, Edward E. Mayer, George P. Muller, Isaac Y. Olch, Stephen Walter Ranson, Dalton K. Rose, Arthur M. Shipley and Lawrence D. Thompson.

A carefully compiled general index to volume I to III accompanies this work.

THE MEDICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 13, No. 6, and INDEX VOLUME. (Mayo Clinic Number—May, 1930.) Octavo of 275 pages with 55 illustrations. Per Clinic Year, July, 1929 to May, 1930. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1930.

The contributors to this issue are: Drs. Abson, Amberg, Bagen, Brown, Bumpus, Burkley, Finney, Ghrist, Giffin, Haines, Harmeir, Hartman, Hench, Jordan, Judd, Keith, Kepler, Learmonth, Mayo, Mueller, Mussey, Nickel, Parker, Plummer, Rowntree, Snell, Stacy, Stuhler, Vanzant, Wakefield, Weber, Weir, Willius, Woltman and Ziegler.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 10, No. 3. (New York Number—June 1930.) Octavo of 265 pages with 123 illustrations. Per Clinic Year, February, 1930, to December, 1930. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company, 1930.

The contributors to this number are Drs. Beer, Cohen, Dudley, Falk, Farr, Farrarar, Gibson, Gratz, Hipsley, Honan, Hurd, Imperatori, Grida, Labat, Lilienthal, Martin, Neer, Pool, Pugh, Reading, Russel, Smith and Sneed.

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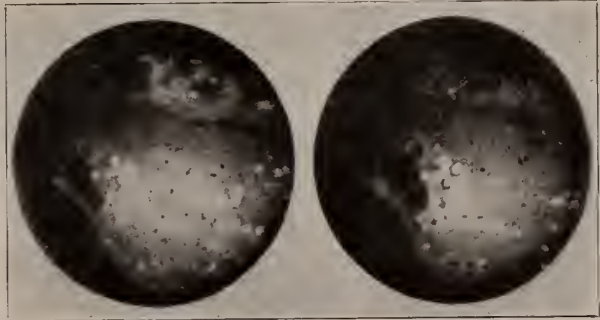
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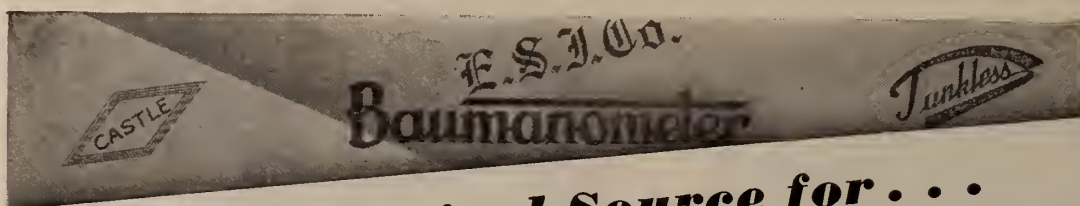
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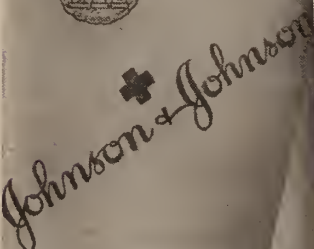
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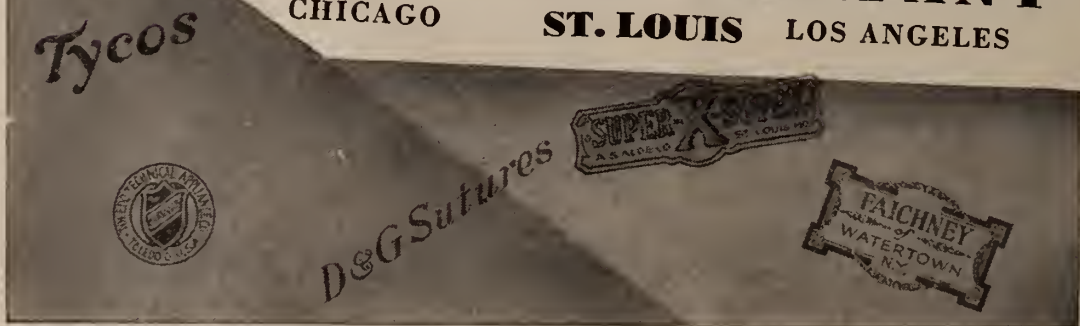
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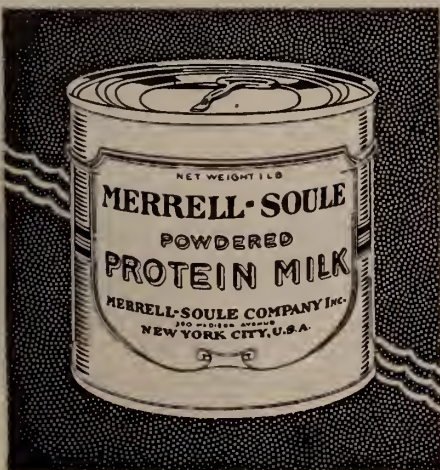
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RELATION BETWEEN DIABETES AND GANGRENE.—Dean Lewis (*Southern Medical Journal*, 20:425, June, 1927).

The relation between diabetes and gangrene has been much discussed. It cannot be demonstrated that hyperglycemia with its associated metabolic changes is the sole cause of gangrene, for the severest forms of diabetes running a rapid course and terminating fatally as well as the more chronic cases with a marked hyperglycemia, may have no gangrene. It may be possible to err in the opposite direction, if the diabetes observed is regarded as a part of senile arteriosclerosis affecting the pancreatic vessels, and denying any relationship between the two. Changes in the arteries are common in diabetics. Gangrene in the diabetic occurs at an earlier age than does senile gangrene. While gangrene in diabetics is undoubtedly due to different causes, in the majority of cases it is observed in patients with vascular changes. However, certain clinical findings, such as the rather constant location of the gangrene suggests that a large artery of the extremity must be occluded at a relatively definite point. Rapid extension of the gangrene may follow an inflammatory lesion caused by the trimming of a corn, the removal of an ingrowing to nail, the scratching of an eczematous patch. Even in these cases there is usually an arteriosclerosis.

RICKETS.—Grace Medes (*Journal of Biological Chemistry*, 68:313, May, 1926).

X-ray photographs taken of rats which were killed after being kept on a low phosphorus diet showed abnormalities of bone structure. They had developed severe rickets. Pappenheimer, McCann, and Zucker state that when phosphates (calculated as phosphorus) are reduced to 135 mg. per 100 gm. of diet, rickets begins to appear and is active when phosphorus is present only to the amount of 110 mg. per 100 gm. of diet. The absolute amount of phosphorus and not the P:Ca ratio seems to be the determining factor.

Rats receiving low calcium did not show any signs of rickets nor did those with the phosphorus content of the diet at a higher level than that of calcium. Cramer states that rickets appears when the phosphorus per 100 gm. of diet is increased to 1 gm. and the calcium is decreased to 22 mg.

Scot: Wha' dae ye charge for a haircut?

Barber: Eight pence, sir.

Scot: An' hoo muckle for a shave?"

Barber: Four pence, sir.

Scot: Then gie ma head a shave!—Black & Blue Jay.

(Continued from page 46)

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CONTRIBUTIONS TO THE FUNCTIONAL DISTURBANCES OF PUBERTY.—A. von Fekete (*Arch. f. Gynäkol.*, 128:540, 1926).

We speak of constitutional fluor when we can not explain it by local changes. As cause of the constitutional fluor the author considers the increased irritability of the vaginal mucosa and of the secretory apparatus (Bartholini glands, cervical mucosa). The basis for this are presented by autochthonous weakness, anomalies of the endocrine system, principally however the condition of excitation of the nervous system. We often find genital hypoplasia, disturbances of the function of the thyroid and parathyroids. Microscopic examination of the vaginal content facilitates the diagnosis; for this is the slight leucocyte count, increased desquamation in the vagina, simple bacterial flora. In the treatment, constitutional changes are to be taken into consideration. In lowered function of the parathyroids, the author prefers to give several intravenous injections of calcium, then calcium preparations by mouth. In defective ovarian activity he gave injections of ovarian or placenta extracts; in hypothyrosis, thyroid therapy. In addition, regulation of the manner of living, removal of constipation and local treatment. Local treatment is to be limited to a short time only.

THE RELATIONSHIP OF THE THYROID TO THE FUNCTIONAL RESISTANCE OF THE KIDNEYS.—Aievoli (*Riforma med.*, 42:35, 1926).

Investigations of Masaru Naitos from Sendai yielded the following:

In renal insufficiency increased thyroid activity hastens death through uremia, while under contrary conditions the opposite occurs. Naito does not trace this back to an indirect influence of the altered thyroid gland on the internal secretion of the kidney, but to the direct action of the thyroid on the chemical changes of the blood and especially on the accumulation of residual nitrogenous substances.

INSULIN IN THE FORCED ALIMENTATION TREATMENT OF NON-DIABETICS.—G. Ichok (*Presse méd.*, No. 42, 1926).

Insulin therapy in cases of emaciation of any etiology always gave favorable results since a very strong feeling of hunger set in which made an over-abundant calorie intake possible. This consisted principally of carbohydrate, that is, 60 calories per kilogram of body weight at the beginning; it can, however follow the usual manner of forced alimentation treatment later. Outside of the increase in weight a vigorous development of the musculature became evident, which was of course the purpose of the treatment. The course of the treatment begins with 10 units; is increased daily by 10 more, always one-half hour before meals, until 60 units daily; no more than 20 units being given, however, before each meal. The result is durable. The ravenous hunger noted at commencement of the treatment gradually returns to normal.

A CASE OF ADDISON'S DISEASE.—W. Robitschek (*Wien. klin. Wchnschr.*, 39:1319, 1926).

The author describes a 38-year-old patient with Addison's disease. With regard to the hopeless condition of the patient, the author tried to call forth a stronger influx of adrenalin into the blood through insulin injections. On the first day he injected 5 units, and on the second day, 10 units of insulin. The result was a good one. The adynamia improved greatly, the blood pressure rose slowly from 80 mm. to 100 mm. Hg., and the patient gained 7 kgm. in weight. After discontinuing the insulin injections twice for one week, the adynamia reappeared and the blood pressure sank. Despite this good result, insulin administration can not in general be recommended in Addison's disease, since the lesion of the adrenals makes them especially sensitive to insulin. Yet, in appropriate cases, it appears to be possible to obtain a considerable improvement and with it a prolongation of life.

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½ teaspoon salt
Finch pepper
1 cup cooked chicken, cubed	125	24	20
¼ cup cream, whipped ..	55	1	22	1.5
Total	31	44	1.5	525	
One serving	5	7	88	

Soak gelatine in cold liquid for five minutes and dissolve in hot broth. Season with salt and pepper and chill until nearly set. Fold in chicken and whipped cream. Turn into wet molds and chill until firm. Serve on lettuce or garnish with parsley and strip of pimento.

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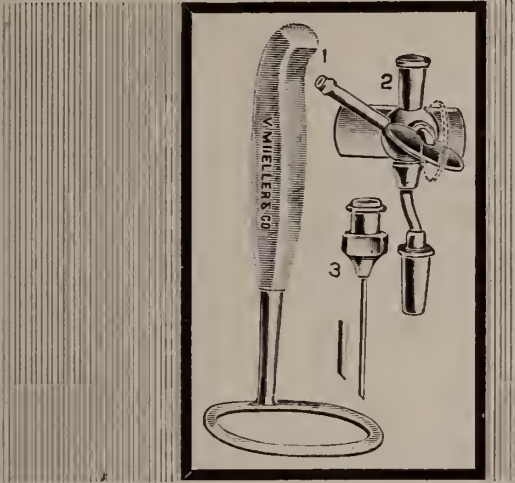
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Book Reviews

MANUAL OF DISEASES OF THE EYE. By Charles H. May. Thirteenth edition. Revised with 374 original illustrations including 23 plates with 73 colored figures. New York. William Wood & Company, 1930. Price, \$4.00 net.

This work is intended for students and general practitioners. The work has been carefully revised, whole chapters have been rewritten. Many alterations, a few illustrations, and some additions have been incorporated thus bringing the volume up-to-date.

ALLERGIC DISEASES, THEIR DIAGNOSIS AND TREATMENT. By Ray M. Ballyeat, M.D. Illustrated with 87 engravings, including 4 in colors. Philadelphia. F. A. Davis Company, Publishers. 1930. Price, \$5.00 net.

This work has gone through three editions in rapid succession proving its popularity. Much new material will be found in the chapters on Hay Fever and Asthma, eight new chapters dealing with Allergic diseases other than hay fever and asthma.

PHYSICAL DIAGNOSIS. By Richard C. Cabot, M.D. Tenth Edition. Revised and enlarged with six plates and 279 figures in the text. New York. Wm. Wood & Co. 1930. Price, \$5.00 net.

Much new matter on coronary disease electrocardiography, cancer of the lung, cardiac asthma, toxic hepatitis, and encephalitis, lethargica has been inserted. The section on laboratory methods of diagnosis has been revised and brought up-to-date.

ENDEMIC GOITER.—J. W. D. Megaw (*Indian Medical Gazette*, 62:306, June, 1927).

In India endemic goiter is most common in the district which lies immediately south of the Himalayas and in the hilly regions of Assam and Burma. The distribution suggests that the agency which causes the disease is carried down by the streams arising in the Himalayas and other mountains and is spread by the water which overflows from these rivers in the rainy season.

The distribution favors an agency of a chemical nature rather than a bacterial infection. The geographical distribution, which appears to remain constant over long periods of time, is not such as would be expected if the disease were due to intestinal infection.

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'Tween sister's pretty clinging self

And brother's freckled face;

Their eating pie, or dreaming dreams,

Or even throwing stones;

There's difference in their protoplasm,

Their flesh, their nerves, their bones,

There's difference in their destiny

That is not hard to trace.

Dear Lord! Guard her, we humbly pray,

The mother of the race.

—A. H. W.

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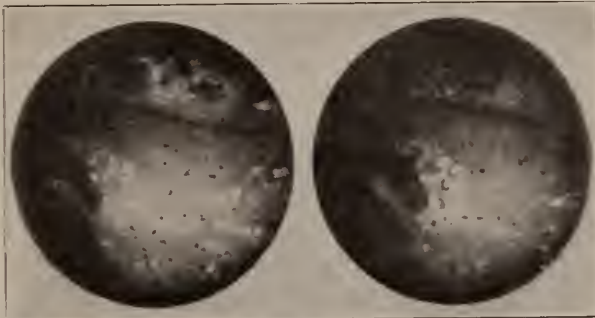
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Intra-gastric Photograph of Ulcer Near Pylorus

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AS YOU NOTICE

"Bow legs are a sign of courage," says a scientist. They certainly are if their owner wears an up-to-date skirt.—*New York American*.

DEFINITION

A Society Man is a fellow whose grandfather amounted to something.—*LARS*.

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"Well, you'll have to try something else; it doesn't agree with you."—*Medical Insurance*.

Customer to Tailor: "I brought these trousers to be resealed. You know I sit a lot."

Tailor: "Yes. Have you brought your bill to be receipted? You know I've stood a lot."—*Rock Island Magazine*.

NEW MENACE TO HEALTH

Aunt Prudence—"Keep away from the loud speaker, Denny. The announcer sounds as if he had a cold."

Mrs. A.: "The doctors decided I didn't need an operation, after all."

Mrs. B.: "Oh, too bad. I'm so sorry, dear."—*Life*.

ON THE EFFECT OF THE ADMINISTRATION OF COMBINED ATOPHAN THYROIDIN ON URIC ACID ECONOMY.—L. Spitz (*Therapie d. Gegenwart*, 67:401, 1926).

Thyroidin, independently of its characteristic quality of increasing metabolism, can in combination with Atophan have a uric acid diuretic effect. The use of both remedies together is therefore more advantageous than that of Atophan alone in cases of intact kidney function. In reference to the well known effects of thyroid extract on the total metabolism, especial caution must be observed in patients treated in this way.

RELATION OF THE THYMUS GLAND TO CANCER.—John Reid (*British Medical Journal*, No. 3447, Page 187, Jan. 29, 1927).

Reid reports a case, a man whose death, at the post mortem, was shown to have been due to a well marked massive cancer near the root of the right lung with secondary nodules in both lungs.

Reid suggests that humanity may become susceptible to cancer when the thymus gland does not completely atrophy but takes on an altered function, producing a blood plasma saturated with thymic juice, and thus rendering the body susceptible to cancer organisms(?). He believes that any local source of irritation which lowers the organs resistance allows cancer to originate and settle in that locality.

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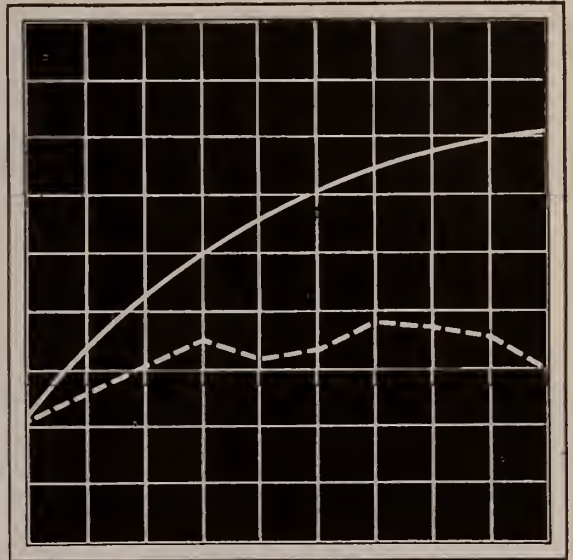
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Bond	H. D. Cartmell, Greenville.	Wm. T. Easley, Greenville.
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(Continued on page 30)

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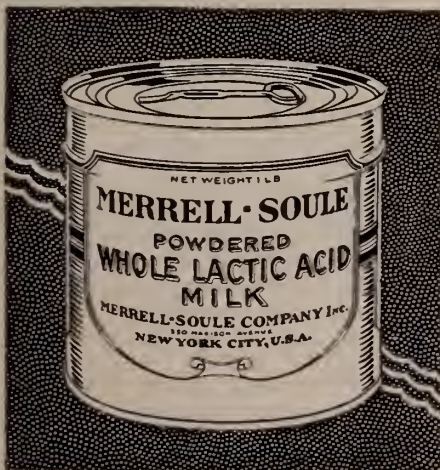
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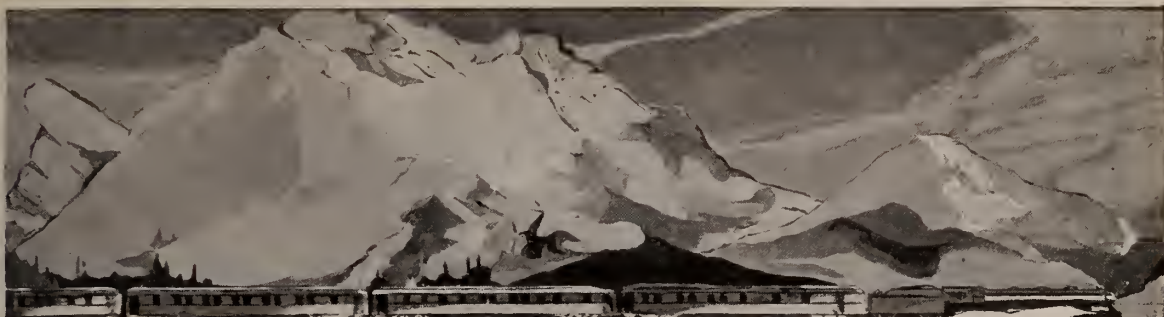
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(Continued from page 20)

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It is NOT THE *GLUCOSE* IN THE URINE that suggests a *Diabetes melitus*—but, rather, AN *EXCESS* OF *SUGAR* IN THE *BLOOD*—though the so-called "*Renal Diabetes*" does show a *Low Blood Sugar*. And it must also be remembered that a *HIGH BLOOD SUGAR* merely *SUGGESTS* a "*DIABETES*"—such finding may also be due to "something else"—the *PROOF* of the pathology being obtainable ONLY through a carefully made "*GLUCOSE TOLERANCE TEST*"—based on the *STRICTLY PHYSIOLOGICAL REQUIREMENTS* of the patient, with *BLOOD*—and *URINALYSES* made at *DEFINITE INTERVALS* and the *RESULTS* shown by a "*GRAPH*". AND it must not be forgotten that the *BLOOD SUGAR* MAY BE *ENORMOUS*, with *NEVER ANY SUGAR IN THE URINE*; also that a *HIGH PERCENTAGE OF PHOSPHATES*, may be the only "suggestion" of a "*CRYPTIC DIABETES*"!

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Two Perles with or after each meal as directed by the Physician.

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Dr. T. B. Knox introduced the following resolution which was seconded by Dr. Beirne:

"RESOLVED: That it is the sense of this Society, that no officer of this society may use his official position, or his official signature, in a matter involving, or of concern to the members of this society as a whole, without first having received the approval of the members thereof at a regular meeting of the society.

BE IT FURTHER RESOLVED: That no officer or member of this society may accept appointment on any committee having association with an organization of lay origin, and which committee is being formed for the purpose of Lay, State or Federal practice of medicine, without first presenting the matter to this society for discussion with subsequent affirmation or rejection.

For WHEREAS the most of such appointments arising from a lay source are but another means of getting professional sanction and professional acquiescence for legislation similar to that developed by the Sheppard-Towner Act, and,

WHEREAS: Practically all such movements and the solicitations for Medical members of committees are but another means to delude and mislead the profession and the public in the interests of politicians, social

workers and meddlers, or of individuals having a personal axe to grind. Therefore

BE IT RESOLVED: That no officer or member of the Adams County Medical Society may accept such an appointment, as a committee member, or in any other official position, for any so-called health movement without the approval of this society."

After a discussion by the few members of the Society remaining, a motion was carried approving the resolution.

ON THE SUBJECT OF FORCED ALIMENTATION WITH INSULIN.—H. Bodmer (*Schweiz. med. Wchnschr.*, 56:423, 1926).

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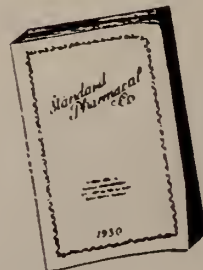
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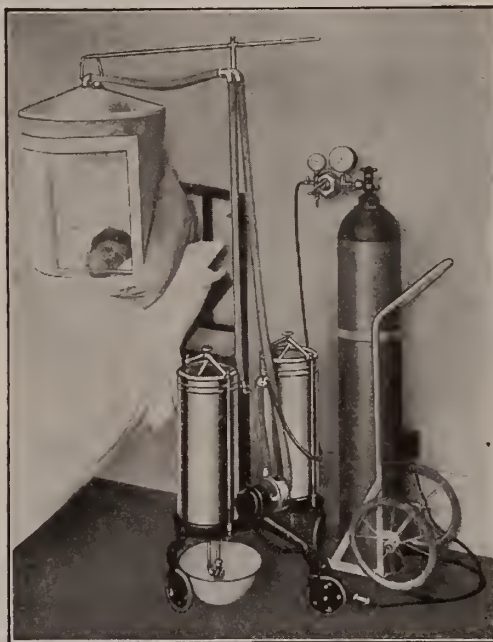
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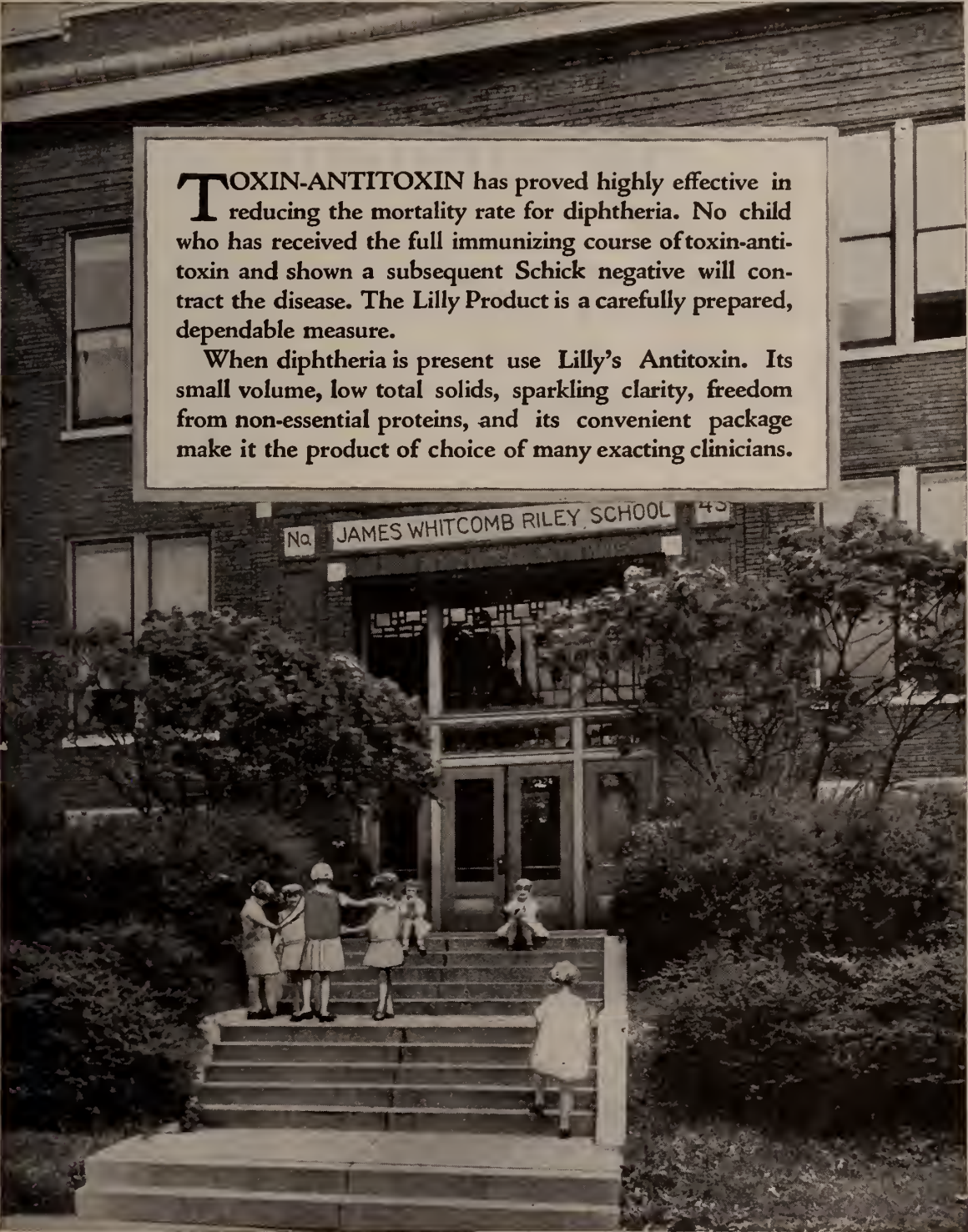
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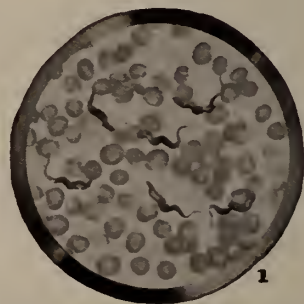


Fig. 1 shows rat blood infected with *trypanosoma equiperdum* (142,000 per c.mm.) just before intravenous injection of Neosalvarsan, magnified 1,000 diameters.

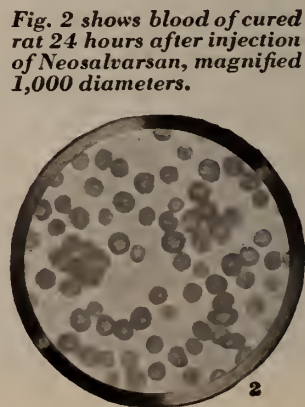


Fig. 2 shows blood of cured rat 24 hours after injection of Neosalvarsan, magnified 1,000 diameters.



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Modern practitioners may depend upon Armour preparations. For more than thirty years the Armour Laboratory has collaborated with the medical profession and the careful manner in which materials are prepared has made the Armour label a veritable mark of confidence.



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Book Reviews

STUDIES IN ETHICS FOR NURSES: By Charlotte A. Aikens, formerly superintendent of Columbia Hospital, Pittsburgh, and of the Iowa Methodist Hospital, Des Moines; Formerly Director of Sibley Memorial Hospital, Washington, D. C. Third Edition, Thoroughly Revised. 12mo. of 390 pages. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$2.50.

This edition reveals a thorough revision of every section of the book. It contains an interesting chapter on the evolution of nursing.

AMERICAN POCKET MEDICAL DICTIONARY. Containing the Pronunciation and Definition of all the principal terms used in Medicine, Surgery, Dentistry, Veterinary Medicine, Nursing and Kindred Sciences; with over 60 extensive tables. Edited by W. A. Dorland, A.M., M.D., Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association; Editor of the "American Illustrated Medical Dictionary." Octavo of 837 pages. Philadelphia and London: W. B. Saunders Company, 1930. Flexible binding, Plain \$2.00 net; Thumb Index \$2.50 net.

In this edition the vocabulary has been enlarged by about 3,000 additional terms and the book contains 60 more pages than the previous edition.

APPLIED BACTERIOLOGY FOR NURSES. By Charles F. Bolduan, M.D., Director, Bureau of Health Education, Department of Health, City of New York; Surgeon (R) U. S. Public Health Service; Formerly Lecturer, Preventive Medicine and Public Health, College of Physicians & Surgeons, Columbia University, New York. Sixth Edition, Revised and enlarged. 12mo. of 251 pages with 80 illustrations. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$2.00.

In this edition everything new that is valuable is presented and applied. Every section has been thoroughly revised.

A TEXT-BOOK OF MATERIA MEDICA FOR NURSES. Including Therapeutics and Toxicology. By George P. Paul, M.D., C. P. H. (Harvard). Formerly Director of the Department of Hygiene and Industrial Health, Antioch College, Yellow Springs, Ohio; Formerly Senior State Director, International Health Board, Rockefeller Foundation; Sometimes Visiting Physician to the Samaritan Hospital, Troy, N. Y. Sixth Edition, Thoroughly Revised. 12mo. of 356 pages. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$1.75 net.

In this edition there are many new additions and improvements. There has been added a new section on

(Continued on page 50)

DIET QUESTIONS *have* GELATINE ANSWERS

BE EXACT WHEN PRESCRIBING "GELATINE"

For Example—

BANANA BAVARIAN (Six Servings)

	Grams	Prot.	Fat	Carb.	Cal.
1¼ tablespoons Knox Sparkling Gelatine . .	9	8	....	....	....
¼ cup cold water . . . .	....	....	....	....	....
1½ cups boiling water . .	....	....	....	....	....
Grated rind of ½ lemon	....	....	....	....	....
3 tablespoons lemon juice or 1 tablespoon fruit acid	30	....	....	3	....
½ gr. saccharin . . . . .	....	....	....	....	....
½ cup mashed banana . .	120	1.5	1	26	....
6 tablespoons cream, whipped	85	2	34	2	....
Total	11.5	35	31	455	
One serving	2	6	6	81	

Soak gelatine in cold water five minutes. Boil rind and water for two minutes, add gelatine and stir until dissolved. Add lemon flavoring and saccharin, strain and chill. When nearly set, fold in mashed banana and whipped cream, mold and chill until set.

A great many physicians are prescribing Knox Sparkling Gelatine for cases in which diet is an important factor as a preventive or corrective. Some physicians, however, merely prescribe "Gelatine".

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We would like to send every physician a publication on "Diet in the Treatment of Diabetes" by a widely known dietetic authority. This publication presents many new ideas and recipes in the preparation of beneficial diabetic diets. It is of such character that it may be placed in the hands of any patient with the assurance that it will act as a safe diet control, and at the same time make the patient more content with the prescribed diet. This publication will be sent in any quantity, to supply the diabetic patients of any physician who will mail this coupon.

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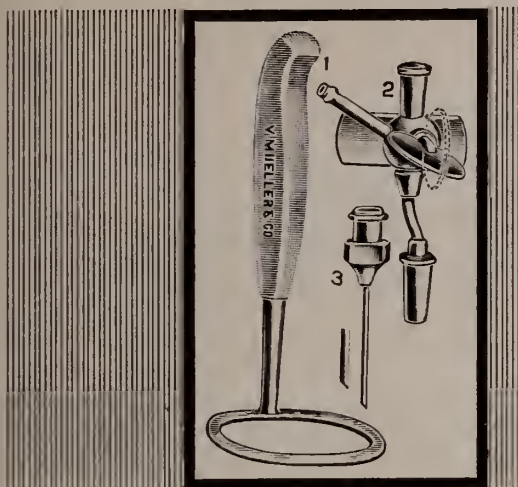
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- Fig. 1. Varicose Vein Occluder, Dr. Theis' model\$5.50
Fig. 2. Two-way Stopcock, Dr. Riehl's model.. 3.00
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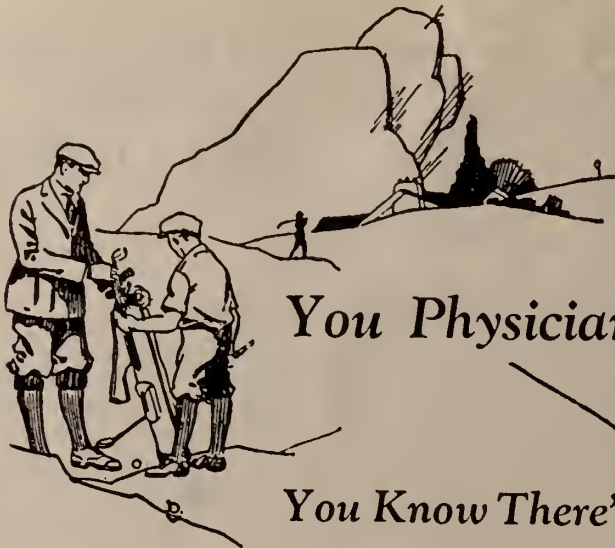


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
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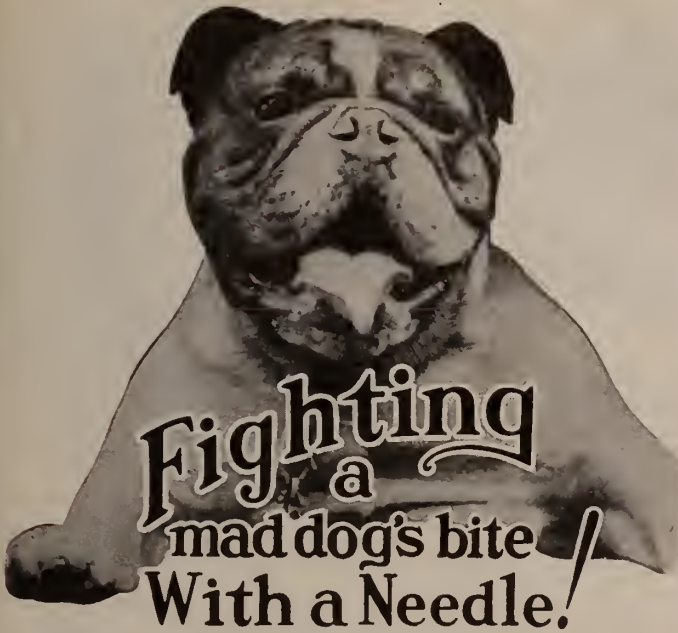
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Two 1 cc ampul-vials
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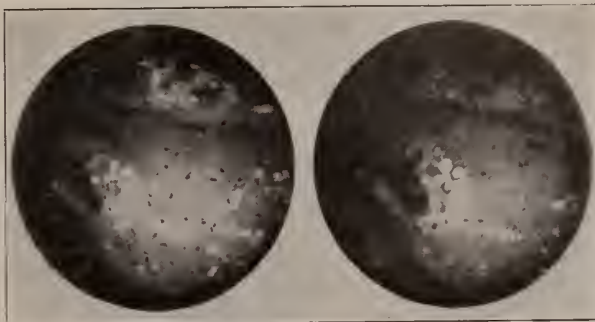
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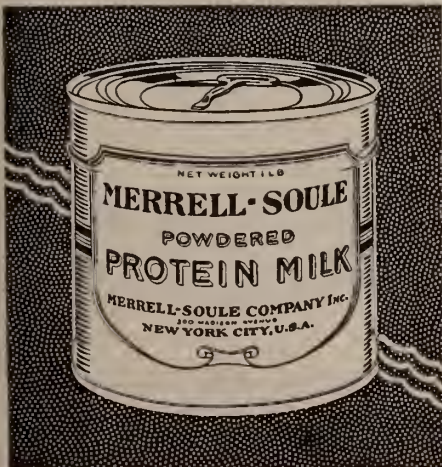
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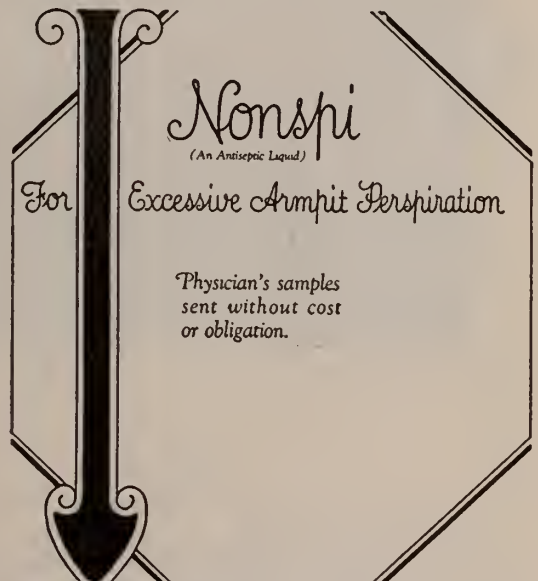
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This book is intended to supply the general practitioner with information concerning the etiology, diagnosis and treatment of the problems of pediatrics involving nutrition.

BURNS, TYPES, PATHOLOGY AND MANAGEMENT. By George T. Pack, M. D. and A. Hobson Davis, M. D. 60 illustrations. Philadelphia & London. J. B. Lippincott Company. 1930. Price, \$6.00.

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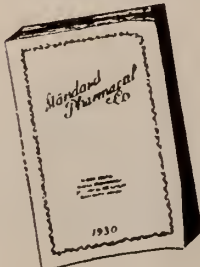
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BOOK REVIEWS

(Continued from page 12)

prescription and the method of writing prescriptions, also a new list of common chemical formulas.

PERSONAL AND COMMUNITY HEALTH. By Clair Elsmere Turner. Third Edition. St. Louis. C. V. Mosby Company. 1930. Price \$2.75.

This work has been thoroughly revised. Much of the material of the former editions has been omitted and several new sections have been added.

GONOCOCCAL INFECTION OF THE MALE. By Abr. L. Wolbarst, M.D. Second Edition. Completely Revised and Enlarged, With One Hundred Forty Illustrations, Including Seven Colored Plates. St. Louis. C. V. Mosby Company. 1930. Price \$5.50.

In this work most of the chapters have been rewritten, the revision has been done with the single thought in

view, however, of clarifying what seemed to be obscure, eliminating what could be dispensed with and adding what is new in order to bring the work up to date.

THE LONG TREK. AROUND THE WORLD WITH CAMERA AND RIFLE. By Richard L. Sutton, M. D., and by Richard L. Sutton Jr., M.D. St. Louis. The C. V. Mosby Company. 1930. Price, \$5.00.

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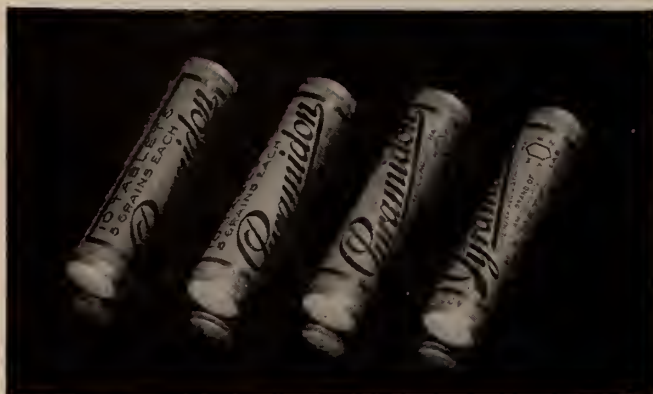


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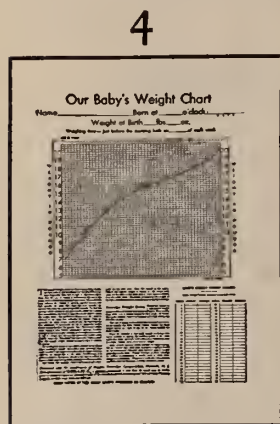
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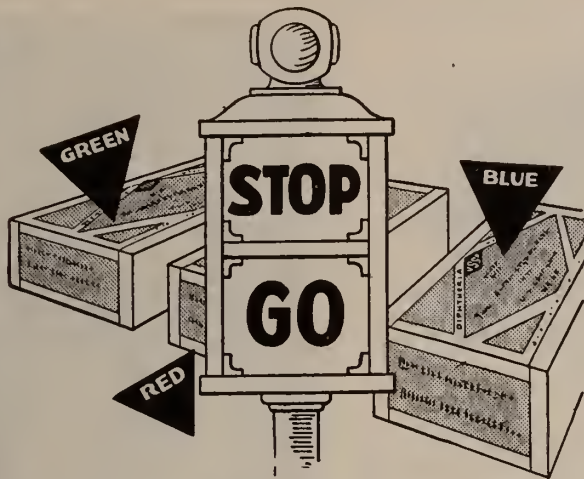
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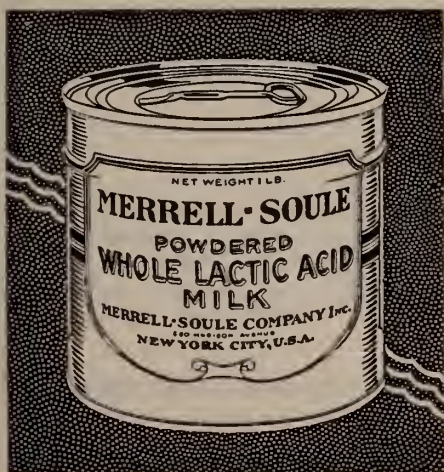
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Dyspnea	21	55	13	62
Dizziness	16	41	7	44
Palpitation	14	38	8	57
Edema of legs.....	9	24	4	44
Tinnitus	9	24	4	44
Visual disturbances	9	24	4	44
Fatigue	8	20	4	50
Nervousness	7	19	4	57
Impairment of memory.....	6	16	1	17
Precordial pain	5	13	4	80
Numbness of extremities.....	5	13	1	20
Unsteadiness of gait.....	4	10	1	25
Insomnia	3	8	2	67
Epistaxis	3	8	1	33
Speech disturbances	3	8		
Mental depression	1	3		

Reference: "Watermelon-Seed Extract in the Treatment of Hypertension," Am.
J. Med. Sci., Oct., 1929.

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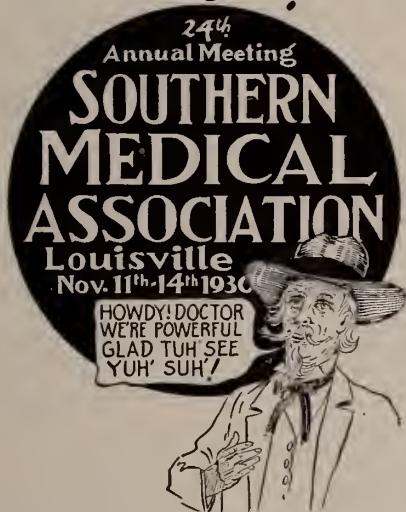
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Book Reviews

GROW THIN ON GOOD FOOD. By Luella E. Axtell, M.D.
New York and London: Funk & Wagnalls Company.
1930. Price, \$2.00.

There are many books on diet and weight-reduction, some of which are dry reading and some of which are too flippant to be attractive to many readers. "Grow Thin on Good Food" is a happy medium. It is authoritative, it is comprehensive, and it is written in an encouraging and bright style without recourse to silly comic features. Although intended for laymen, it also should be of unusual value to doctors, nurses and dietitians.

The second chapter on "Fallacies About Reducing" and the explanation of food families are delightful. The chapter on "Tricks in Cooking" offers some of the cleverest and most original of material. With stress on salads in weight reduction, the problem of salad-dressings that are non-fattening has been almost insurmountable, yet the author gives a French dressing, a special cooked salad dressing, and, what is most surprising, a non-fattening mayonnaise!

OUTLINE IN OBSTETRICS FOR NURSES. By F. W. Rice,
St. Louis: The C. B. Mosby Company. 1930. Price,
\$2.00.

This work is not intended as a text-book. It is in-

tended as a quick reference book. The work is the accumulation of the notes used by the author in lecturing to nurses over a period of eleven years.

EDWARD JENNER AND THE DISCOVERY OF SMALLPOX VACCINATION. By Louis H. Roddis, Lieutenant Commander, Medical Corps, U. S. Navy.

The only biography of Jenner by an American; this little volume gives an excellent summary of his life and achievements. It contains a graphic picture of the ravages of smallpox in pre-vaccination times, as well as the circumstances surrounding the discovery that constitutes one of the chief glories of modern medicine.

Reprinted from The Military Surgeon, 155 pages, 10 illustrations, \$1.00. The Collegiate Press. George Banta Publishing Co., Menasha, Wisconsin.

DIETETICS AND NUTRITION. By Maud A. Perry. St. Louis. The C. V. Mosby Company. 1930. Price, \$2.50.

Much of the material in this book has been taken from the author's earlier books, articles and lectures.

PROSTHETIC DENTISTRY. By Ira Goodsell Nichols, D.D.S. With Collaboration of Forty-five Authors. Eight Hundred Thirty Illustrations and Three Colored Plates. St. Louis. C. V. Mosby Company. 1930. Price \$12.50.

(Continued on page 33)

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Book Reviews

(Continued from page 30)

TROPICAL MEDICINE IN THE UNITED STATES. By Alfred C. Reed, M. D. 60 illustrations. Philadelphia and London. J. B. Lippincott Company. 1930. Price, \$6.00.

This volume is brought out having one subject only in view: to present a serviceable guide to the physician in the United States in his contacts with tropical medicine.

THE MEDICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 14, Number 1. (University of California Number, July, 1930.) Octavo of 278 pages with 54 illustrations. Per clinic year, July, 1930, to May, 1931. Paper, \$12.00; Cloth, \$16.00 Net. Philadelphia and London. W. B. Saunders Company, 1930.

THE SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 10. No. 4. (Southern Number—August, 1930.) 268 pages with 96 illustrations. Per clinic year (February, 1930, to December, 1930.) Paper, \$12.00; Cloth, \$16.00. Philadelphia and London.

The contributors to this number are Drs. Abel, Brooks, Campbell, Doughty, Gage, Guerry, Haggard, Hendon, Maes, Mason, McGuire, Miller, Alton, Ochsen Payne, Peble, Royster, Williams.

PROBLEMS AND METHODS OF RESEARCH IN PROTO ZOOLOGY. Edited by Robert Hegner and Justin Andrews. New York. The MacMillan Company. 1930. Price \$5.00.

In this volume the editors have brought together information of value to students and investigators in the field of Proto Zoology that has been either widely scattered in the literature or never before been published.

DIPLOMATIC FIRMNESS

Finkelstein was a good customer of Abe and Mawruss. He was, however, getting lax about his payment of invoices, and Abe suggested that Mawruss write him a strong but diplomatic letter calling his attention to this laxity.

Mawruss worked for several hours over the letter, then showed it to Abe for his approval. After reading it over carefully, Abe said: "By golly, dot's a wonderful letter. Strong and to the point, aber not personal or insulting. But you got a couple of mistakes in it, Mawruss. 'Dirty' you should spell mit only vun 'r,' and 'cockroach' begins mit a 'c.'"

MANY DO

She: Where is your chivalry?

He: I turned it in for a Buick.—*Chanticleer.*

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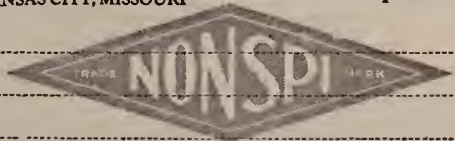
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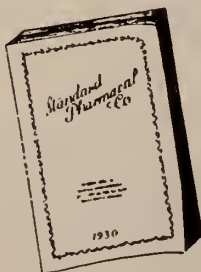
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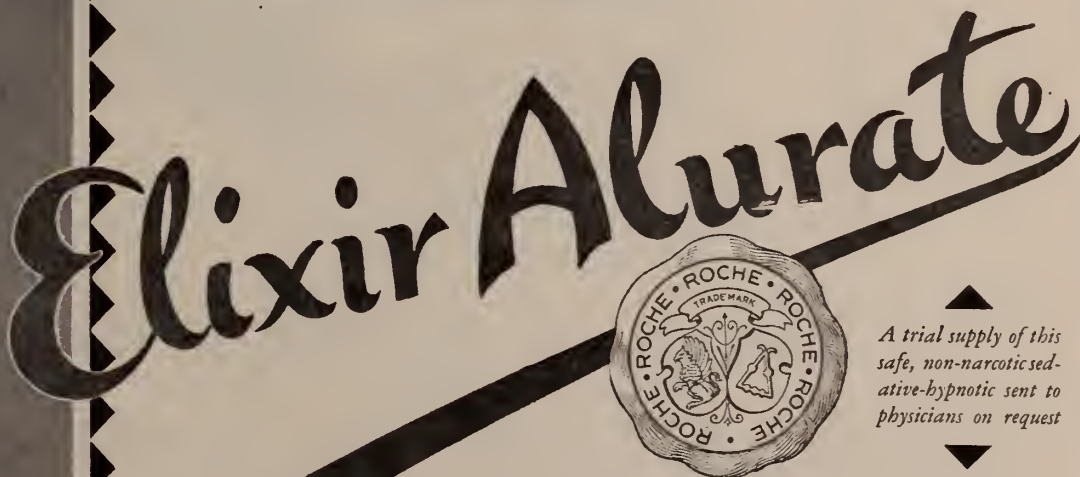
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SPINACH SALAD (Six Servings)

	Grams	Prot.	Fat	Carb.	Cal.
1½ tablespoons Knox Sparkling Gelatine.....	10	9
¼ cup cold water.....	....	....	....	....	....
1¼ cups boiling water.....	....	....	....	....	....
2 tablespoons lemon juice.....	20	....	....	2	....
½ teaspoon salt.....	....	....	....	....	....
1½ cups cooked spinach, chopped.....	300	6	....	7	....
2 hard cooked eggs.....	100	13	10.5	....	....
Total	28	10.5	9	242.5	
One serving	5	2	1.5	40	

Soak gelatine in cold water and dissolve in boiling water. Add lemon juice, salt, strain and chill. When nearly set, stir in chopped spinach, mold and chill until firm. Serve on lettuce hearts or tender chicory leaves and garnish with hard cooked egg, cut lengthwise in sixths and sprinkled with paprika. Serve with mayonnaise.

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EVERY physician knows the difficulty of diet control in diabetes—and will appreciate the value of Knox Sparkling Gelatine in dispelling monotony and arousing appetite without disturbing the purpose or the balance of the diet in the slightest degree.

The two recipes on this page show how perfectly Knox Gelatine fits into the diabetic diet. Where small quantities of vegetables, meat or fish are necessary, satisfying bulk may be supplied with Knox Gelatine; which combines perfectly with these essential foods, making them more attractive to the eye and continuously delightful to the taste.

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WINTER SALAD (Six Servings)

	Grams	Prot.	Fat	Carb.	Cal.
2 teaspoons Knox Sparkling Gelatine.....	4.5	4
¼ cup cold water.....	....	....	....	....	....
½ cup hot water.....	....	....	....	....	....
½ teaspoon salt.....	....	....	....	....	....
¼ cup vinegar.....	....	....	....	....	....
1½ cups grated cheese.....	150	43	54	....	....
½ cup chopped stuffed olives.....	70	1	19	8	....
½ cup chopped celery.....	60	1	....	2	....
¼ cup chopped green pepper.....	25	....	....	1	....
¾ cup cream, whipped.....	75	2	30	2	....
Total	51	103	13	1183	
One serving	8.5	17	2	197	

Soak gelatine in cold water. Bring hot water and salt to boil and dissolve gelatine in it. Add vinegar and set aside to chill. When nearly set, beat until frothy, fold in cheese, olives, celery, pepper and whipped cream. Turn into molds and chill until firm. Unmold on lettuce leaf and serve.

by a widely known dietetic authority. This treatise presents many new ideas and recipes in the preparation of beneficial diabetic diets. It is of such character that it may be placed in the hands of any patient with the assurance that it will act as a safe diet control, and at the same time make the patient as happy with his food as though he were not on a diet. This booklet will be sent in any quantity, to supply the diabetic patients of any physician who will mail the coupon.

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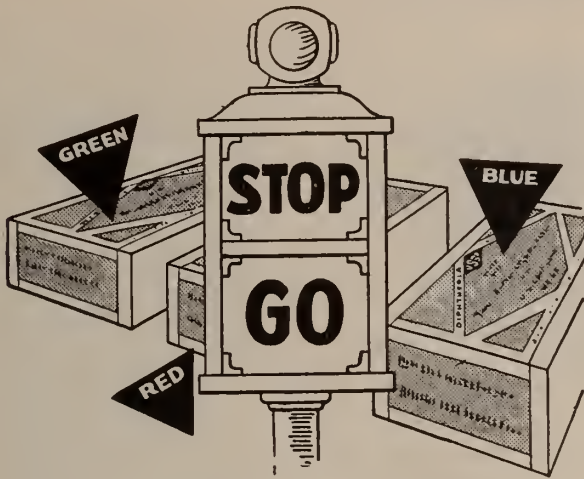
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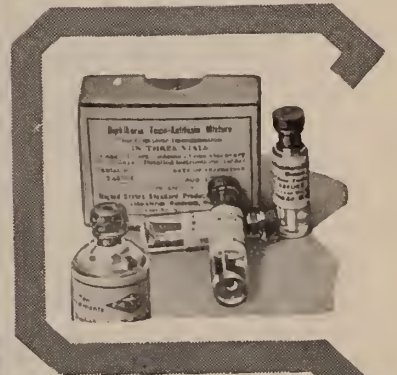
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Book Reviews

THE PATHOLOGY OF DIABETES MELLITUS. By Shields Warren, M. D. 8mo, 212 pages, with 83 engravings and 2 colored plates. Philadelphia: Lea & Febiger. 1930. Price, \$3.75 net.

This is the first complete study of the pathology of Diabetes Mellitus—a book of major importance to every medical practitioner and to every student interested in the subject. It is a well written, scholarly and illuminating monograph, showing what the practitioner can avoid if he will heed the voice of modern medicine. It presents the results of Dr. Warren's hard, thoughtful work and offers real hope for the diabetic patient and real help to his physician.

ORTHOPAEDIC SURGERY. By Royal Whitman, M. D., M. R. C. S. (Eng.), F. A. C. S. Octavo, 1085 pages with 981 engravings. Philadelphia: Lea & Febiger. 1930. Price, \$10.00 net.

This book has for years been recognized as the standard text in its subject. The new ninth edition, thoroughly revised, demonstrates the great advance of this branch of surgery, both in scope and in method. It represents a continuity of personal experience and, like each previous edition, it will add greatly to the authority and reputation of the text as the most complete work on the subject, equally valuable to the student, practitioner and specialist.

INTESTINAL TUBERCULOSIS: ITS IMPORTANCE, DIAGNOSIS AND TREATMENT—A Study of the Secondary Ulcerative Type. By Lawrason Brown, M. D., and Homer L. Sampson. Second edition. Octavo, 376 pages with 122 engravings and two colored plates. Philadelphia: Lea & Febiger. 1930. Price, \$4.75 net.

This second edition has been fully revised and greatly enlarged. This book shows that intestinal tuberculosis can be accurately diagnosed and that it can be cured. It gives, too, not only the proper method of diagnosis but the proper treatment which can bring about the cure. It is one of the best clinical contributions that has come from this world-famous tuberculosis center. The story is told in pictures, and with this book any qualified physician may master the method.

CANCER OF THE LARYNX. By Sir St. Clair Thomson, M. D., and Lionel Colledge, M. D. New York. The MacMillan Company. 1930. Price, \$7.00.

ARTERIAL HYPERTENSION. By Edward J. Stieglitz, M. D. Foreword by Rowlin T. Woodyatt, M. D., with 21 illustrations. New York. Paul B. Hoeber, Inc. 1930. Price, \$5.50.

Because of the chronicity and asymptomatic nature of the process of arterial disease, the significance of these disturbances has not received adequate attention in the past. The present monograph represents an effort to discuss these problems in such a manner that the logic of physiologic mechanism may be used at the

bedside. It is derived from a series of lectures given by the author for several years past.

A PRACTICAL DICTIONARY. By Thomas Lathrop Stedman, M. D. Eleventh, revised edition. Illustrated. New York. William Wood & Company. 1930. Price, \$7.50.

This is the only complete standard American Medical Dictionary that has come out in the year 1930. The new preface is particularly interesting, also the new index of tables and index of plates. There are seven new plates in this edition. Extension alterations and additions have been made to almost every one of the 1,234 large pages.

This is an up-to-date dictionary of words used in medicine with their derivation and pronunciation, including dental, veterinary, chemical, botanical, electrical, life insurance and other special terms; anatomical tables of the titles in general use, and those sanctioned by the Basle anatomical convention; pharmaceutical preparations, official in the United States and British pharmacopoeias and continued in the national formulary, and comprehensive list of synonyms.

A TEXT-BOOK OF HISTOLOGY. By Alexander A. Maximow, Late Professor of Anatomy, University of Chicago. Completed and edited by William Bloom, Assistant Professor of Anatomy, University of Chicago. 833 pages with 604 illustrations, some in colors. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$9.00.

DISEASES OF THE SKIN. A Text-book for Practitioners and Students. By George Clinton Andrews, A.B., M.D., Associate Professor of Dermatology, College of Physicians and Surgeons, Columbia University; Consulting Dermatologist and Syphilologist to Tarrytown Hospital; to St. John's Hospital, Yonkers; to Grassland's Hospital; and to the Broad Street Hospital, New York City. 1091 pages with 988 illustrations. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$12.00 net.

In this work the author has gathered and presented in a lucid and intelligible manner the tried and conservative principles of dermatology with the most recent developments, to evaluate them and to correlate them into one satisfying, orderly whole.

NERVOUS INDIGESTION. By Walter C. Alvarez, M.D. New York: Paul B. Hoeber, Inc. 1930. Price, \$3.75 net.

The field of nervous indigestion is a neglected one in medical schools. This work handles the subject in scientific and up-to-date manner. The work should prove of great assistance to the internists, the surgeon and the general practitioner, all of whom are called with increasing frequency to treat the functional troubles that are at present afflicting the human family at an alarming rate.

(Continued on page 27)



Intragastric Photograph of Ulcer Near Pylorus

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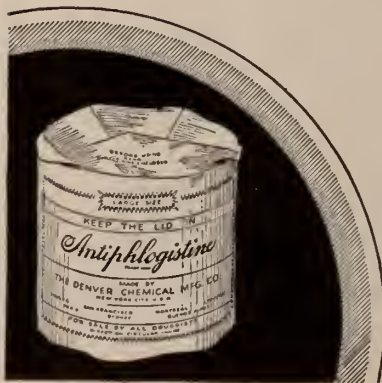
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Book Reviews

(Continued from page 18)

THE MEDICAL CLINICS OF NORTH AMERICA. The New York Number. Volume 14 No. 2. September, 1930. Philadelphia & London. W. B. Saunders Company.

The contributors to this number are Dr. Baehr, Cohen, Crampton, Craver, De Graff, Doan, Floyd, Goldbloom, Graves, Guion, Hieman, Held, Herrick, Hyslop, Klemperer, Packard, Pugh, Stevenson, Wechsler, Williams and Wyckoff.

HANDBOOK OF ANATOMY. By James K. Young, M. D. Revised by George W. Miller, M. D. Seventh Revised Edition With One Hundred Fifty-Four Engravings, Some in Colors. Philadelphia. F. A. Davis Company. 1930. Price, \$3.75.

This is a complete compend of anatomy including the anatomy of the viscera, a section on surgical anatomy, a chapter on dental anatomy, numerous tables, and adopting the newer nomenclature designate the basle nomenclature, commonly called the BNA.

DISEASES OF THE EAR. By Philip D. Kerrison, M. D. 332 Illustrations in Text and 2 Full Pages in Color. Fourth Edition. Revised and Enlarged. Philadelphia & London. J. B. Lippincott Company. 1930. Price, \$7.50.

In this edition the author has revised many of the sections devoted to the treatment of various aural lesions. A chapter has been added on the modern aural method of training the totally deaf child. Much new work has been included having a direct or practical bearing upon either the conception or treatment of aural diseases.

MINOR SURGERY AND BANDAGING. Twentieth edition. By Gwynne Williams, with 262 Illustrations. Philadelphia & London. F. A. Davis Company. 1930. Price, \$3.50.

This work is intended for the use of house surgeons, dressers and junior practitioners. Many changes have been made throughout the book. The chapters on fractures have been extended and the non-operative treatment of the commoner varieties has been detailed more fully.

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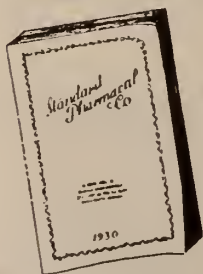
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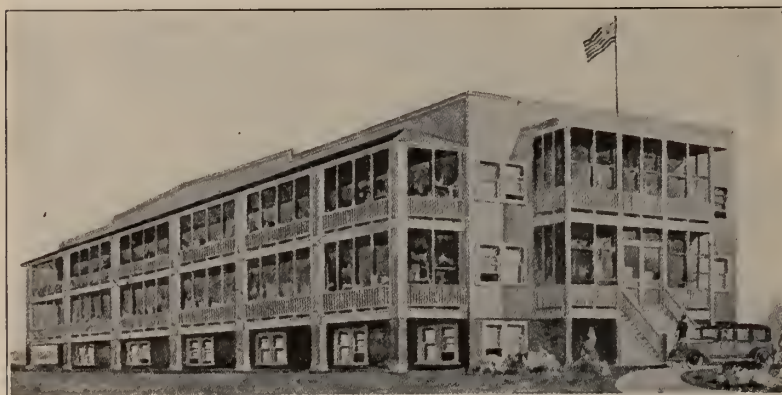
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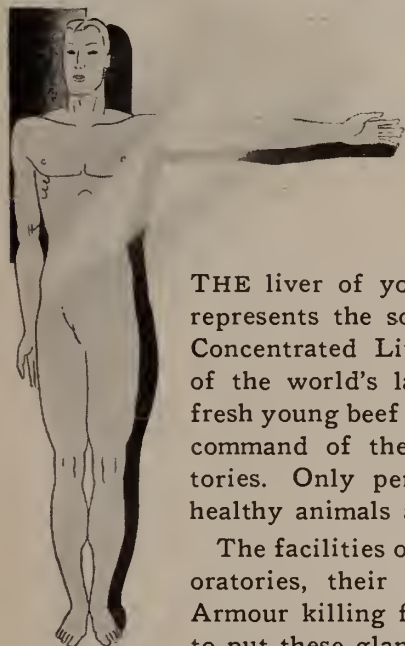
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	Gms.	Prot.	Fat	Carb.	Cal.
1½ tablespoons Knox Sparkling Gelatine	10	9
¼ cup cold water
1¼ cups boiling water	..	..	..	..	..
2 tablespoons lemon juice	20	..	..	2	..
½ teaspoon salt	..	..	..	..	..
1½ cups cooked spinach chopped	300	6	..	7	..
2 hard cooked eggs	100	13	10.5	..	..
Total	28	10.5	9	242.5	
One serving	5	2	1.5	40	

Soak gelatine in cold water and dissolve in boiling water. Add lemon juice, salt, strain and chill. When nearly set, stir in chopped spinach, mold and chill until firm. Serve on lettuce hearts or tender chicory leaves and garnish with hard cooked egg, cut lengthwise in sixths and sprinkled with paprika. Serve with mayonnaise.

JELLIED CHICKEN IN CREAM

(Six Servings)

	Gms.	Prot.	Fat	Carb.	Cal.
1 tablespoon Knox Gelatine	7	6	..	..	..
¼ cup cold chicken broth or water	..	..	..	..	..
1¼ cups boiling chicken broth, fat free	..	..	..	..	..
½ teaspoon salt	..	..	..	..	..
Pinch pepper	..	..	..	..	..
1 cup cooked chicken, cubed	125	24	20	..	..
¼ cup cream, whipped	55	1	22	1.5	..
Total	31	44	1.5	526	
One serving	5	7	..	88	

Soak gelatine in cold liquid for five minutes and dissolve in hot broth. Season with salt and pepper and chill until nearly set. Fold in chicken and whipped cream. Turn into molds and chill until firm. Serve on lettuce or garnished with parsley and strip of pimento.

TOMATO JELLY

(Six Servings)

	Gms.	Prot.	Fat	Carb.	Cal.
1¼ cups hot water	..	..	..	..	..
½ teaspoon salt	..	..	..	..	..
½ teaspoon whole mixed spices	..	..	..	..	..
1½ tablespoons Knox Sparkling Gelatine	10	9	..	..	..
5 tablespoons cold water	..	..	..	..	..
1¼ cups tomatoes strained	250	3	.5	10	..
2 tablespoons vinegar	..	..	..	..	..
Total	12	.5	10	92.5	
One serving	2	..	2	15	

Bring to boil, hot water, salt and spices. Soak gelatine in cold water for five minutes and dissolve in hot liquid. Strain into tomatoes and add vinegar. Stir well and pour into molds. Chill until set. Serve plain, or on lettuce, with or without salad dressing.

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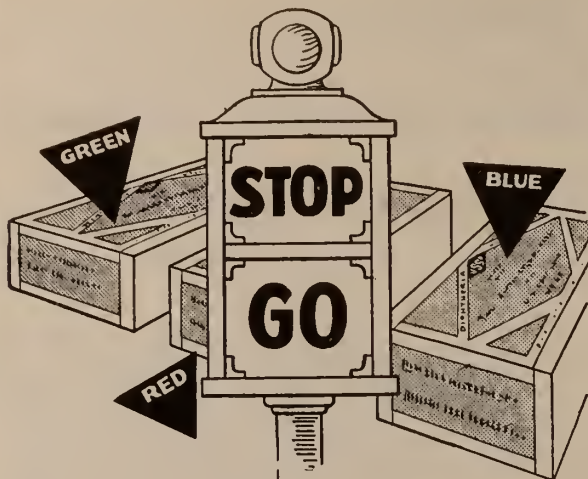
Mead's Viosterol in Oil is now designated 250 D because, in accordance with the provisions of the Wisconsin Alumni Research Foundation, we are now assaying the product by the Steenbock method. Before October 1, 1930, this same product was assayed by the McCollum-Shipley method and was designated 100 D. This was done in the belief that this method gave results comparable with that prescribed by the Wisconsin Alumni Research Foundation for its licensees. It was discovered, however, that when assayed by this method the potency of the product was virtually 250 D in comparison with products standardized by the Steenbock method.

Mead's Viosterol in Oil, 250 D (Steenbock method)—in normal dosage—is clinically demonstrated to be potent enough to prevent and cure rickets in almost every case. Like other specifics for other diseases, larger dosage may be required for extreme cases. It is safe to say—based upon extensive clinical research by authoritative investigators (reprints on request)—that when used in the indicated dosage, Mead's Viosterol in Oil, 250 D is a specific in almost all cases of human rickets, regardless of degree and duration, as demonstrated serologically, roentgenologically and clinically.

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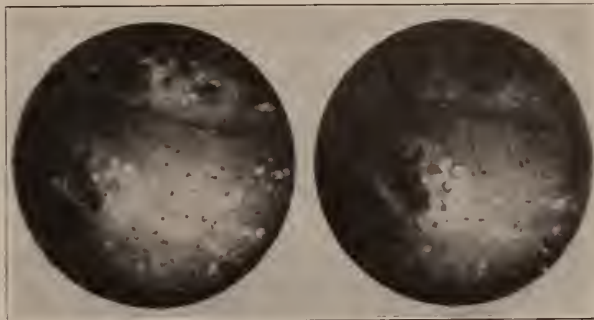
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Book Reviews

SURGICAL CLINICS OF NORTH AMERICA. (Issued serially, one number every other month.) Volume 10, number 5. (Pacific Coast Number—October, 1930.) 271 pages with 136 illustrations. Per Clinic year (February, 1930, to December, 1930). Paper, \$12.00; Cloth, \$16.00. Philadelphia and London.

The contributors to this number are Doctors Brown, Caldbrick, Cecil, Collins, Delprat, Eloesser, Else, Gilcreest, Hoffstadt, Holden, Holman, Judd, Kahn, King, Kroger, Lobingier, Lockwood, Matthews, Mullen, Phillips, Pringle, Reichert, Scholl, Sturgeon, Swift, Taylor, Toland, Watkins, Weeks, Willis.

TEXT BOOK OF GYNECOLOGY. By Arthur H. Curtis, M. D., Professor and Head of the Department of Obstetrics & Gynecology, Northwestern University Medical School; Chief of the Gynecological Service, Passavant Memorial Hospital, Chicago. 380 pages with 222 original illustrations. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$5.00.

In this work the author presents the specialty in concise form and is a record of the author's personal experience despite the fact the volume is small, the subject matter contained is essentially complete presentation of all the author believes is vital in gynecology.

All illustrations are original; except in four instances they are actual reproductions from the author's personal cases.

TEXT-BOOK OF MEDICINE. Edited by Russell L. Cecil, A. B., M. D., Sc.D., Assistant Professor of Clinical Medicine in Cornell University; Assistant Visiting Physician in Bellevue Hospital, New York City; and Associate Editor for Diseases of the Nervous System, Foster Kennedy, M. D., F. R. S. E., Professor of Neurology in Cornell University; Head of Neurological Department, Bellevue Hospital. Second Edition, Revised and Entirely Reset. 1592 Pages. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$9.00.

This work represents the effort of several contributors. It is an up-to-date treatise in which each subject is discussed by a writer particularly interested in that subject. In all there are one hundred and thirty contributors, each of whom is a student or investigator of the subject on which he has written.

THE MENTAL ASPECT OF STAMMERING. By C. S. Bluemel, M. D. Baltimore. Williams and Wilkins Company. 1930. Price, \$2.50.

In this work the author presents, in brief form, his conception of the mental cause of stammering, and to outline the methods of mental training which the author suggests as a remedy for the impediment.

The book is written primarily for school use, but it is also intended for use by the stammerer who must rely on self-training. The book is presented in brief and simple form.

(Continued on page 28)

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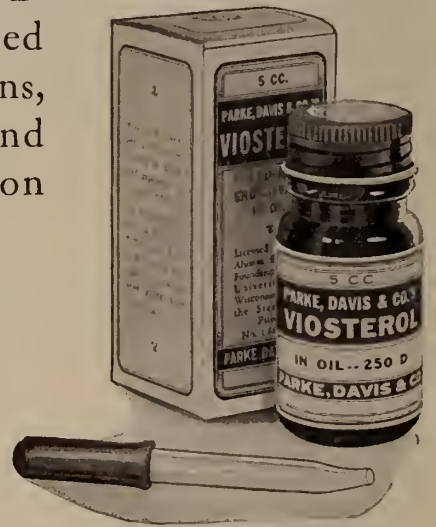
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Book Reviews

(Continued from page 18)

LEGAL MEDICINE AND TOXICOLOGY. By Ralph W. Webster, M.D., Ph.D., Late Clinical Professor of Medicine (Medical Jurisprudence) in Rush Medical College, University of Chicago, Chicago, Ill. 862 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1930. Cloth, \$8.50.

This work presents in one volume the more usual phases of legal medicine in a somewhat concise manner. It brings out the more important points involved in the cases with which the busy practitioner ordinarily comes in contact and on which he may be called upon to inform himself before giving testimony. The student also may acquire from this work the rudiments of the science so as to prepare himself for the different examinations for licensure.

A SYNOPSIS OF MEDICINE. By Henry Lethevy Tidy, M. D. Fifth Edition, Revised and Enlarged. New York. William Wood & Company. 1930. Price, \$6.00 Net.

This work aims at providing a synopsis of such principals of medicine as are of importance as of the present time.

A wider scope has been adopted as merely the classification of the most prominent details in each disease.

The symptoms have been fully enumerated and briefly explained, and the pathology of the disease and reference to the most probable or best known theories have also been included.

PHYSICAL DIAGNOSIS. By Warren P. Elmer, M. D., and W. D. Rose, M. D., with three hundred and thirty-seven illustrations. St. Louis. The C. V. Mosby Company. 1930. Price, \$10.00.

This work covers the technique of physical examination and normal physical diagnosis as well as a course on abnormal physical diagnosis. The book is divided into two parts. Part I is devoted to subject matter which has been found useful in the course on technic of physical examination and normal physical diagnosis. Part II deals with the physical diagnosis of disease.

OPERATIVE GYNECOLOGY. By Harry Sturgeon Crossen, M. D., and Robert James Crossen, M. D. Fourth edition. Twelve hundred forty-six illustrations and two color plates. St. Louis. The C. V. Mosby Company. 1930. Price, \$15.00.

In this revision, in addition to extensive changes generally to bring the matter up to date and further systematize it for helpful presentation, four new chapters have been added, over four hundred new illustrations have been added, besides numerous modifications to show improvement in technique.

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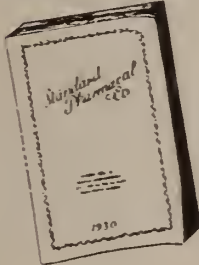
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(Continued from page 28)

MEDICAL JURISPRUDENCE. By Elmer D. Brothers, LL. B. Third edition. St. Louis. The C. V. Mosby Company. 1930. Price, \$3.50.

This work is a statement of the law of forensic medicine. The medical students and practitioner will find the text to be practical statements of the general principles and rules announced by the courts in dealing with medical knowledge.

THE MEDICAL RECORD VISITING LIST OR PHYSICIANS' DIARY FOR 1931. Revised. New York. William Wood and Company. Price, \$2.00 Net.

This handy work is ready for 1931 service. It contains the usual aids to the physicians, namely a calendar; estimation of the probably duration of pregnancy, approximate equivalents of temperature, weight, capacity, measure, etc.; maximum adult doses by the mouth, in apothecaries' and decimal measures; prescriptions of narcotics; drops in a fluid dram; solutions for subcutaneous injection; contagious diseases diagnostic

table; miscellaneous facts; treatment of poisoning and other emergencies; artificial respiration; signs of death; hints on the writing of wills; table of signs; visiting list with special memoranda; consultation practice; obstetric engagements; record of obstetrical practice; record of vaccinations; register of deaths; nurses' addresses; addresses of patients and others; cash accounts.

THE PUBLIC INVESTMENT IN HOSPITALS. By C. Rufus Rorem. Chicago. University of Chicago Press. \$2.50.

This is the first careful, authoritative estimate of the amount of capital investment in hospitals. The contribution it makes to hospital accounting is of utmost significance and bears directly on the controversy about the cost of medical care.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS. By Hobart Amory Hare, M. D. Twenty-first edition. Enlarged, thoroughly revised and largely rewritten. Illustrated, 145 engraving and six plates. Philadelphia. Lea & Febiger. 1930. Price, \$7.50 net.

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